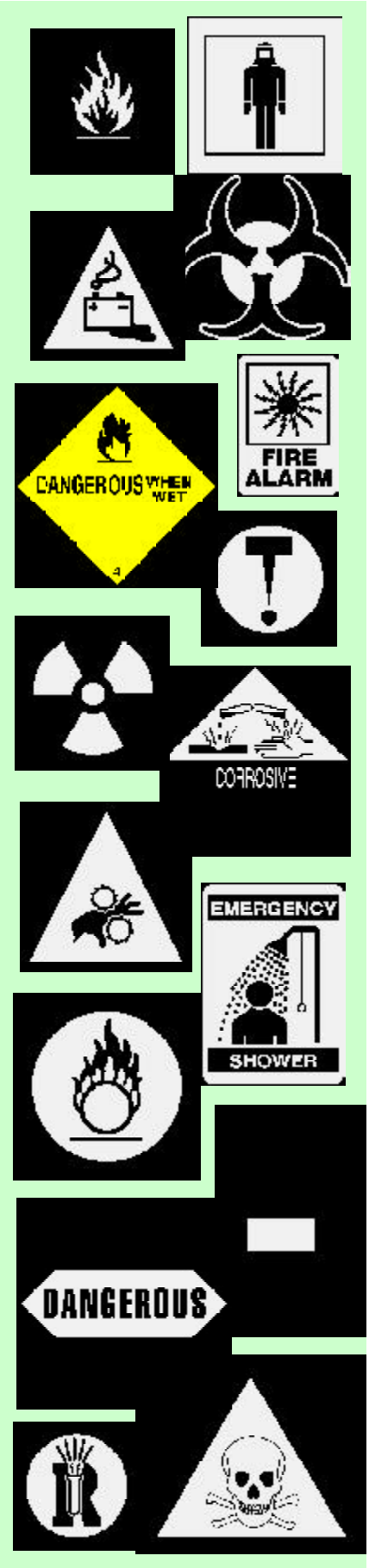

City of Los Angeles

2001 HAZARDOUS WASTE MANAGEMENT GUIDE

Environmental Affairs Department

Hazardous & Toxic Materials Office

Summer 2001 Edition
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Senior Editor: Donna T. Chen, City of Los Angeles, Environmental Affairs Department

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Senior Editor (1993): Laura A. Guerena, California Safety Council

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The City of Los Angeles Environmental Affairs Department (EAD), which was established in 1990, is the chief advisor to the City on environmental issues. The EAD initiates and spearheads innovative approaches and acts as the key contact for environmental issues city-wide. The EAD works to ensure a sustainable, clean, and healthful environment for all residents of Los Angeles. For more information about the EAD, contact:

City of Los Angeles
Environmental Affairs Department, MS 177
200 North Spring Street, 19th Floor
Los Angeles, CA 90012

Environmental Hotline: 1 (800) 439-4666 or (213) 978-0891

Web page: www.lacity.org/EAD

e-mail: info@ead.ci.la.ca.us

The Hazardous and Toxic Materials (HTM) Office is an office of the EAD. The HTM Office directs a non-regulatory, technical assistance program that encourages the implementation of pollution prevention practices. Technical assistance is provided to the City of Los Angeles businesses and to individual City departments. Program services are offered free of charge. They include pollution prevention, workshops, case studies, environmental product supplier information and environmental service provider information. For additional business assistance information, contact the HTM Office at

City of Los Angeles
Environmental Affairs Department, MS 177
Hazardous and Toxic Materials Office
200 North Spring Street, 19th Floor
Los Angeles, CA 90012

(213) 978-0891
Fax (213) 978-0890

Web page: **www.lacity.org/EAD**

PREFACE

While the information contained in this publication has been compiled from sources believed to be reliable and correct, neither the sponsors, editors or publishers, nor any person acting on their behalf makes any warranty, expressed or implied, with respect to the use of any information, method, or process disclosed in this publication or that such use may not infringe upon privately owned rights and does not assume any liabilities or responsibility, expressed or implied, with respect to the use of, or for damages resulting from the use or, any information, method or process disclosed in this publication or the accuracy of the information contained herein.

This publication is meant to be of assistance in the establishment and maintenance of a hazardous waste management control program; it is not intended or designated to give legal advice on compliance with federal, state and local laws and regulations. It should be noted that laws, regulations and standards are subject to revisions, additions or deletions at any time.

INTRODUCTION

This Guide is designed to be an easy-to-follow reference manual to help the business owner or authorized representative comply with the many hazardous waste regulations that affect the workplace. The regulations referred to in this Guide have been summarized from the Code of Federal Regulations, the California Code of Regulations, other local regulations, and federal and state hazardous waste regulatory agency policies. All Federal regulations are available from Government Printing Office, a Federal bookstore or the Superintendent of Documents, Washington, D.C. Federal hazardous waste and related regulations and guidance are also available online on the Internet through the U.S. Environmental Protection Agency's World Wide Web site at **http://www.epa.gov/oswer**. California hazardous waste regulations (Title 22, California Code of Regulations (CCR), Division 4.5) are available online at **http://ccr.oal.ca.gov/**. The California Hazardous Waste Control Law (the California State hazardous waste statute) is available on line at **http://www.leginfo.ca.gov/calaw.html**. Cal-EPA Department of Toxic Substances Control's web site, **http://www.dtsc.ca.gov**, contains DTSC's hazardous waste guidance documents, policy memos, pollution prevention information, agency contacts, and other information. Links to the Health and Safety Code and California hazardous waste regulations are also on the DTSC web site. Cal/OSHA's regulations (Title 8, CCR) are available at **http://www.dir.ca.gov/occupational_safety.html.** The EAD/HTM web site, **http://www.lacity.org/ead** also contains useful information and resources on hazardous waste management, permitting, and pollution prevention to help your business better and more cost efficiently manage hazardous waste.

The Duty Officers of DTSC have recently developed an extensive 'FAQ' (Frequently Asked Questions) page on DTSC's web site. This FAQ provides answers to a wide range of questions about hazardous waste regulation, identification, handling, disposal, recordkeeping and other topics. The FAQ can be accessed at **http://www.dtsc.ca.gov/oea/duty_officers/faqs.html.**

If you do not have the ability to access the internet, all of the permit applications, guidance documents, statutes and regulations, etc. referenced in this Guide are available in hard copy by contacting the appropriate agency or the HTM Office. Addresses and telephone numbers are provided throughout Guide.

The reader must be aware that the regulations regarding hazardous waste are constantly changing on the local, state and federal level. Portions of this Guide relating to specific regulations may become outdated at any time. Be aware that the contents herein are excerpts and summaries of State and Federal regulations and guidelines that we felt best reflected the information needed to train generators of hazardous waste to comply with both the spirit and the letter of the law. For more detailed information, we urge you to review the actual text of the regulations, as well as relevant federal, state and local guidance documents and policies that affect your business.

This Hazardous Waste Management Guide is only a starting point if a business: is a large quantity generator, uses exotic or unique processes, treats hazardous wastes on-site, or is subject to requirements governing permitted waste storage, treatment or disposal facilities. These businesses will need to acquire a more detailed understanding of the specific requirements for their facilities and develop a more comprehensive hazardous waste compliance program.

This Guide does not cover all regulations that govern the management of hazardous waste. It presents regulations and related requirements that have been adopted by the State of California Environmental Protection Agency and the U.S. Environmental Protection Agency. The regulations established by other governmental agencies may additionally apply, including those of the Certified Unified Program Agency (CUPAs) or Participating Agencies (PAs) with local jurisdiction over hazardous waste generators and on-site treaters of hazardous wastes.

Please also note that the addresses, phone numbers and internet addresses in this Guide were current at the time of publication. Users of the Guide are also reminded that this information may change in between Guide revisions.

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GLOSSARY OF TERMS

ACCIDENTAL OCCURRENCE- An accident, including continuous repeated exposure to conditions, that result in bodily injury, property damage or environmental degradation neither expected nor intended from the standpoint of the insured.

ACCUMULATED SPECULATIVELY- Accumulating a material before being recycled. A material is not accumulated speculatively, however, if the person accumulating it can show that the material is potentially recyclable and has a feasible means of being recycled; and that, during the calendar year (commencing on January 1), the amount of material that is recycled, or transferred to a different site for recycling, equals at least 75 percent by weight or volume of the amount of that material accumulated at the beginning of the period. In calculating the percentage of turnover, the 75 percent requirement is to be applied to each material of the same type (e.g., slags from a single smelting process) that is recycled in the same way (i.e., from which the same material is recovered or that is used in the same way). Materials accumulating in units that would be exempt from regulation under 22 CCR section 66261.4(c) are not to be included in making the calculation. (Materials that are already defined as wastes also are not to be included in making the calculation.)

ACUTELY HAZARDOUS WASTE- Any hazardous waste as described in 40 CFR section 261.30(d).

ANCILLARY EQUIPMENT- Any device including but not limited to, such devices as piping fittings, flanges, valves and pumps, that is used to distribute meter or control the flow of hazardous waste from its point of generation to a storage or treatment tank(s), between hazardous waste storage and treatment tanks to a point of disposal on-site, or to a point of shipment for disposal off-site.

AQUIFER- A geologic formation, group of formations or part of a formation capable of yielding a significant amount of groundwater to wells or springs.

ASSETS- All existing and all probable future economic benefits obtained or controlled by a particular party.

AUTHORIZED REPRESENTATIVE- The person responsible for the overall operation of a facility or part of a facility, e.g. the plant manager, superintendent or person of equivalent responsibility

BERM- An embankment, curb or ridge of either natural or man-made materials used to prevent the movement of liquids, sludges, solids or other materials.

BIOACCUMULATIVE TOXIC SUBSTANCE- toxic substance that concentrates in living organisms through direct assimilation or food chain accumulation

BODILY INJURY- Any injury that causes physical pain, illness or any impairment of physical condition.

BORDER ZONE PROPERTY- Any property designated as border zone property pursuant to H&SC Section 25229 which is within 2,000 feet of a significant, existing or potential hazard to present or future public health or safety on the land in question.

BUFFER ZONE- An area of land which surrounds a hazardous waste facility and on which certain land uses and activities are restricted to protect the public health and safety and the environment from existing or potential hazards caused by the migration of hazardous waste.

BUSINESS- The conduct of activity, and not limited to a commercial or proprietary activity.

BY-PRODUCT- A material that is not one of the primary products of a production process and is a material that is not solely or separately produced by the production process.

CAL/OSHA- The State of California's Occupational Safety and Health Agency that is responsible for the enforcement of occupational safely and health regulations.

CAL-EPA - California Environmental Protection Agency. Regulatory agencies which are part of Cal-EPA include the Department of Toxic Substances Control, State Water Resources Control Board (and the Regional Water Quality Control Boards under the State Water Board), and other agencies.

CARCINOGEN- A substance that induces cancer from either acute or chronic exposure.

CERTIFIED UNIFIED PROGRAM AGENCY (CUPA)- A local agency, certified by Cal-EPA, to administer and regulate the following programs: hazardous waste generator, hazardous waste generator on-site treatment, hazardous material underground storage tanks, above ground storage tank spill prevention control and countermeasures plans, hazardous materials release response (business emergency) plans and inventories, and the California Accidental Release Plans program (formerly Risk Management and Prevention Plans). The CUPA regulations (Title 27 CCR) allow one or more

agencies within the CUPAs geographic area to administer and regulate one or more of the above programs in coordination with the CUPA. These are called 'Participating Agencies' (PAs). In the City of Los Angeles, the CUPA is the Los Angeles City Fire Department. The PA regulating hazardous waste generators and hazardous waste generator on-site treatment within the City is the Los Angeles County Fire Department Health/Hazardous Materials Division.

CLOSURE- The act of closing a hazardous waste management facility or hazardous waste management unit to pursuant the requirements of 22 CCR sections 66264 and 66265.

COMBUSTIBLE LIQUID- Any liquid having a flash point above 100 degrees F and below 200 degrees F as determined by tests listed in 49 CFR Section 173.115(d).

CONTAINER- Any device that is open or closed, and portable, in which a material can be stored, handled, treated, transported, recycled or disposed of.

CONTINGENCY PLAN- A document setting out an organized, planned and coordinated course of action to be followed in case of a fire, explosion or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

CORROSIVE- Any acid, alkaline, caustic or other liquid or solid material which causes visible destruction of, or irreversible alteration in, living tissues by chemical action at the site of contact, or which may cause fire when in contact with other materials.

COVERED CONTAINER- Any container which is equipped with a closure that will prevent the escape of a liquid or solid substance when closed.

DECONTAMINATE- To make free of wastes that are hazardous pursuant to the criteria in Title 22 CCR, Section 66260.200.

DESIGNATED FACILITY- A hazardous waste transfer, treatment, storage, or disposal facility which has received a permit (or a facility with interim status) in accordance with DTSC, a permit from another State authorized in accordance with part 271 of title 40 CFR, or that is regulated under Title 22 CCR section 66266, or has received a permit, a grant of interim status, or a variance to operate without a permit or grant of interim status from DTSC, or is otherwise authorized by law to receive specific hazardous wastes, and that has been designated on the manifest by the generator pursuant to 22 CCR section 66262.20.

DIKE - See BERM.

DISCHARGE- The accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying or dumping of hazardous waste into or on any land or water.

DISPOSAL- The discharge, deposit, injection, dumping, spilling, leaking or placing of any hazardous into or on any land or water so that such hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters.

DISPOSAL FACILITY- A facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure.

DISPOSAL SITE- The location where any final deposition of hazardous waste occurs.

END USER- Any person who receives a hazardous waste from an unaffiliated third party and who intends to, or does, use or reuse that waste as:

1. An ingredient in an industrial process to make a product, provided that distrust components of the meal are not recovered as separate end products; or
2. A substitute for a raw material in a process that uses raw materials as principal feedstock, or
3. A substitute from commercial product in a particular function or application.

"End-user" does not include:

1. A person who receives a RCRA or non-RCRA hazardous waste;
2. A person who receives a hazardous waste from an unaffiliated third party and who intends to, or does, process that waste to recover usable products or regenerate that waste;
3. A person managing a material that is not a waste pursuant to HSC section 25143.2.

ENVIRONMENTAL PROTECTION AGENCY (EPA) HAZARDOUS WASTE NUMBER- The number assigned to each hazardous waste listed in article 4 of 22 CCR section 66261 and to each characteristic identified in article 3 of 22 CCR section 66261 as an EPA hazardous waste number.

(EPA) IDENTIFICATION NUMBER- The number applied for by and assigned to all handlers of hazardous waste. The numbers are assigned by the US. EPA or Cal-EPA to each generator, transporter and treatment, storage or disposal facility. A State ID number will be issued to handlers of any amount of non-RCRA hazardous waste (HW) and/or under 100 KG per calendar month of a RCRA HW. The

State ID number will have a prefix of three letters followed by nine numbers. A federal ID number (EPA ID number) will be issued to handlers of 100 KG or more per calendar month of a RCRA HW and/or more than 1 KG per calendar month of RCRA acute HW. The federal ID number will have a prefix of three letters followed by nine numbers. Federal facilities will have a prefix of two letters followed by ten numbers.

ETIOLOGIC AGENT- A viable microorganism or its toxins which causes or may cause human disease.

EXTREMELY HAZARDOUS WASTE- A substance or combination of substances which, if human exposure should occur, may likely result in death, disabling personal injury, serious illness caused by the hazardous waste or mixture of hazardous wastes because of its quantity, concentration, or chemical characteristics.

FIXED TREATMENT UNIT- Any equipment which performs a treatment and which is permanently stationed, or which is periodically assembled for use, at a single facility for the purpose of performing treatment, regardless of the period or frequency of treatment.

FLAMMABLE GAS- Any compressed gas meeting the requirements for lower flammability limit, flammability limit range, flame projection or flame propagation criteria as specified in 49 CFR Section 173.300 (b)

FLAMMABLE LIQUID- Any liquid having a flash point below 100 degrees F.

FLAMMABLE SOLID- Any solid material, other than an explosive, which is liable to cause fires through friction, retained heat from manufacturing or processing, or which can be ignited readily and when ignited bums so vigorously and persistently as to create a serious transportation hazard.

FLASH POINT- The minimum temperance at which a substance gives off flammable vapors that will ignite in contact with a spark or flame.

FREEBOARD- The vertical distance between the top of a tank or surface impounds & and the surface of the waste contained therein.

GENERATOR- Any person, by site, whose act or process produces hazardous waste identified or listed in Title 22, CCR Section 66261 or whose act first causes a hazardous waste to become subject to regulation.
GROUND WATER- Water below the land surface in a zone of saturation.

HANDLING- The transportation or transferring from one place to another, or pumping, processing, storing or packaging of hazardous waste, but not including the handling of any substance before it becomes a waste.
HAULER- A transporter of hazardous waste primarily to a disposal or treatment facility.

HAZARDOUS- Has the capability of either causing or significantly contributing to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or posing a substantial present or potential risk to human health or the environment.

HAZARDOUS MATERIALS-
(a) A substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either:

1. Cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or
2. Pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed

(b) Unless expressly provided otherwise, the term "hazardous material" shall be understood to also include extremely hazardous materials.

HAZARDOUS SUBSTANCE- For transportation purposes, a material, and its mixtures or solutions, that is identified by the letter 'E' in Column 2 of the Hazardous Materials Table to 49 CFR section 172.101 when offered for transportation in one package, or in one transport vehicle if not packaged, and when the quantity of the material therein equals or exceeds the reportable quantity (RQ). For all other purposes, a material, and its mixtures or solutions, that is relocated under the Federal Comprehensive Environmental Response, Compensation, and Liability Act (Cercla or Superfund) and is listed in 40 CFR302.4.

HAZARDOUS WASTE- A waste, or combination of wastes, which because of its quantity, concentration, or physical, or chemical characteristics may either:

(a) Cause, or significantly contribute to an increase in mortality or an increase in serious irreversible or in capacitating reversible illness; or
(b) Pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed of or otherwise managed.

HAZARDOUS WASTE FACILITY- All continuous land structures, other appurtenances and improvements on the land, used for handling, treating, storing or disposing of hazardous waste.

HAZARDOUS WASTE MANAGEMENT- The handling,

accumulation, storage, transportation, processing, treatment, recovery, recycling, transfer and disposal of hazardous waste.

HAZARDOUS WASTE MANAGEMENT UNIT- contiguous area of land on or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area.

IGNITABLE- Capable of being set afire, or of bursting into flame spontaneously or by interaction with another substance or material.

INCINERATOR- Any enclosed device using controlled flame combustion that neither meets the criteria for classification as a boiler nor is listed as an industrial furnace.

INCOMPATIBLE WASTE- A hazardous waste which is unsuitable for:

(a) Placement in a particular device or facility because it may cause corrosion or decay of containment materials (e.g., container inner liners or tank walls); or
(b) Co-mingling with another waste material under uncontrolled conditions because the co-mingling might produce heat or pressure, fire or explosion, violent reaction, toxic dust, mist, fumes or gases or flammable fumes or gases.

INDIVIDUAL GENERATION SITE- The contiguous site at or on which one or more hazardous wastes are generated. An individual generation site, such as a large manufacturing plant, may have one or more sources of hazardous waste but is considered a single or individual generation site if the site or property is contiguous.

INDUSTRIAL WASTEWATER-The liquid and water-carried wastes originating from any industrial or commercial process, operation or activity. Sanitary waste (including human excrement, shower, lavatory and dish washing wastewater) may be included in the permitted industrial wastewater flow from a regulated industry or commercial operation.

INFECTIOUS WASTE- As used in this section, a type of microorganism, helminth, or virus which causes or significantly contributes to the cause of increased morbidity or mortality of human beings, including all the following:
(a) Laboratory wastes, including cultures of etiologic agents, which pose a substantial threat due to their volume and virulence
(b) Pathologic specimens, including human or animal tissues, blood elements, excreta, and secretion which contain etiologic agents, and attendant disposable fomites.
(c) Surgical specimens, including human or animal parts and tissues removed surgically or at autopsy, which, in the opinion of the attending physician or veterinarian, contain etiologic agents and attendant disposable fomites.
(d) Human dialysis waste materials including arterial lines and dialyzate membranes.
(e) Carcasses of animals infected with etiologic agents which may present a substantial hazard to public health if improperly managed.

INNER LINER- A continuous layer of material placed inside a tank or container which protects the construction materials of the tank or container from the contained waste or reagents used to treat the waste.

INTERIM STATUS- The authorization granted by the Cal-EPA DTSC which allows a facility to continue to operate pending renew and decision of the facility's permit application.

INTERNATIONAL SHIPMENT- The transportation of hazardous waste into or out of the jurisdiction of the United States.

IRRITATING MATERIAL- A liquid or solid substance which upon contact with fire or when exposed to air gives off dangerous or intensely irritating fumes, but not including any poisonous material, Class A.

LAND DISPOSAL METHOD-
1. Disposal of hazardous wastes on or into the land, but not limited to, landfill, surface impoundment, waste piles, deep-well injection, land spreading, and co-burial with municipal garbage.
2. Treatment of hazardous waste on or in the land, such as neutralization and evaporation ponds and land farming, where the treatment residues are hazardous wastes and are not removed for subsequent processing or disposal within one year.
3. Storage of hazardous wastes on or in the land, such as waste piles and surface impoundments, other than neutralization and evaporation and ponds, for longer than one year.

LANDFILL- A disposal facility or part of a facility where a hazardous waste is placed in or on land and which is not a land treatment facility, a surface impoundment of an injection well.

LARGE QUANTITY GENERATOR- A generator who generates over 1,000 kilograms of RCRA hazardous waste or over 1 kg or extremely/acutely hazardous wate in any calendar month.

LEACHATE- Any liquid, including any suspended components in the liquid, that has percolated through or drained from hazardous waste.

LEAK-DETECTION SYSTEM- A system capable of detecting the failure of either the primary or secondary

containment structure or the presence of a release of hazardous waste or accumulated liquid in the secondary containment structure. Such a system must employ operational controls (e.g., daily visual inspections for releases into the secondary containment system of aboveground tanks) or consist of an interstitial monitoring device designed to detect continuously and automatically the failure of the primary or secondary containment structure or the presence of a release of hazardous waste into the secondary containment structure.

LICENSE- Includes, but is not limited to any permit, registration or certification issued by any local, State, or Federal agency for the generation, transportation, storage, recycling, disposal or handling of hazardous waste.

LINER- A continuous layer of natural or man-made material beneath or on the sides of a surface impoundment landfill or landfill cell, which restricts the downward or lateral escape of hazardous waste, hazardous waste constituents or leachate.

LOAD- The amount of waste transported by one truck one railroad car or one barge to a hazardous waste facility.

MANIFEST- The shipping document DHS 8022A, or the equivalent document required by the state to which the waste will be shipped, originated and signed by the generator which contains the information required by Title 22, CCR Section 66262.20.

MANIFEST DOCUMENT NUMBER- The serially increasing number assigned to the manifest by the Department for recording and reporting purposes.

MEDICAL WASTES- See Infectious Waste.

MOVEMENT- Hazardous waste transported to a facility in an individual vehicle.

MSDS- Material Safety Data Sheets contain chemical safety and chemical product ingredient/composition information that is supplied by chemical manufacturers or suppliers.

MULTIPLE HAZARDS- A material meeting the definition of more than one US Department of Transportation hazard class according to the sequence given in 49 CFR Part 173.2.

MUTAGEN- A substance that will induce a permanent transmissible difference in the characteristics of an offspring from those of its parents.

NATURAL RESOURCES- Includes, but is not limited to, disposal site capacity and substances which are hazardous waste, or which are in hazardous waste, the reuse of which is technologically and economically feasible.

NON-FLAMMABLE GAS- Any compressed gas other than flammable compressed gas.

NON-RCRA HAZARDOUS WASTE- All hazardous waste regulated in the State, other than RCRA hazardous waste as defined in this section.

NON-SUDDEN ACCIDENTAL OCCURRENCE- An unforeseen and unexpected accident which takes place overtime, involves continuous or repeated exposure and results in bodily injury, property damage or environmental degradation.

OFF-SITE FACILITY- Any waste facility which is not an on-site facility.

ON-SITE FACILITY- A facility:

(a) at which a hazardous waste is generated and which is owned by, leased to, or under the control of, the generator of the waste; and
(b) which is located on the same or geographically contiguous property, on which the waste is produced, which may be divided by public or private right-of-way, provided the entrance and exit between the properties is a crossroads intersection, and access is by crossing as opposed to going along, the right-of-way. Noncontiguous properties owned by the same person but connected by a right-of-way which the person controls and to which the public does not have access, is also considered an on-site facility.

ORM-OTHER REGULATED MATERIALS- Any material that may:

(1) pose an unreasonable risk to health and safety or property when transported in commerce; and
(2) does not meet any of the definitions of the other hazard classes specified, or
(3) has been reclassed an ORM (specifically or permissively) according to this subchapter (49 CFR Section 173.500 (a)).

OWNER- The person who owns a facility or part of a facility.

OXIDIZER- A substance such as chlorate, permanganate, inorganic peroxide, or a nitrate that yields oxygen readily to stimulate the combustion of organic matter.

PARENT CORPORATION- A corporation which directly owns at least 50 percent of the voting stock of the corporation which is the facility owner or operator; the latter corporation is deemed a “subsidiary” of the parent corporation.

PERMIT-BY-RULE- A provision of the Federal Hazardous Waste regulations stating that the facility or activity is deemed to have a permit if it meets the requirements of

the provision. Permit-By-Rule is also one of the on-site Hazardous Waste Treatment Tiers under DTSC's Tiered Permit Program.

PERMITTED FACILITY- A facility that has received a Hazardous Waste Facility Permit from the Cal-EPA DTSC in accordance with the California Health and Safety Code, Section 25200.

PERSISTENT TOXIC SUBSTANCE- A toxic substance that resists natural degradation or detoxification.

PERSON- An individual, trust, firm, joint stock company, corporation, including but not limited to, a government corporation, partnership, and association. "Person" also includes any city, county, district, and the state or any department or agency thereof and the federal government or any department or agency thereof.

PERSONNEL- All persons who work at or oversee the operations of a hazardous waste facility and whose actions or failure to act may result in noncompliance.

PILE- Any non-containerized accumulation of solid, non-flowing hazardous waste that is used for treatment or storage.

POINT SOURCE- Any discernible, confined and discrete conveyance, including, but not limited to any pipe, ditch, channel, tunnel, conduit well, discrete fissure, container, rolling stock, concentrated animal feeding operation or vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

POISON A- Extremely Dangerous Poisons. Poisonous gases or liquids of such nature that very small amounts of the gas, or vapor of the liquid, mixed with air are dangerous to life.

POISON B- Less Dangerous Poisons. Substances, liquids, or solids (including pastes and semisolids), other than Class A or irritating materials, which are known to be so toxic as to afford a hazard to health during transportation or which, in the absence of adequate data on human toxicity, are presumed to be toxic.

PORTABLE TANK- A tank which is designed to be stationary when full but portable when empty. Portable tanks are regulated as containers.

POST-CLOSURE PLAN- The plan for postclosure care prepared in accordance with CCR Title 22 Section 66265.118.

PROCESSING- Treatment, as defined in Section 25123.5 of the Health and Safety Code.

PRODUCER- Anyone who generates a waste material.

PROPERTY DAMAGE- An injury to property which deprives its owner of the benefit of the property by taking, withholding, deteriorating or destroying it.

RADIOACTIVE MATERIALS- Any material, or combination of materials that spontaneously emits ionizing radiation and having a specific activity greater than 0.002 microcurie per gram.

RCRA HAZARDOUS WASTE- All wastes identified as a hazardous waste in Part 261 of subchapter I of chapter 1 of Title 40 of the Code of Federal Regulations and appendices thereto.

REACTIVE- Having properties of explosivity or of chemical activity which can be a hazard to human health or the environment.

RECYCLABLE MATERIAL- A hazardous waste that is capable of being recycled, including, but not limited to, any of the following:

(a) a residue;
(b) a spent material, including, but not limited to, a used or spent stripping or plating solution or etchant;
(c) a material that is contaminated to such an extent that it can no longer be used for the purpose for which it was originally purchased or manufactured;
(d) a by-product listed in 22 CCR section 66261.31 or section 66261.32;
(e) any retrograde material that has not been used, distributed or reclaimed through treatment by the original manufacturer or owner by the later of the following dates:

1. One year after the date when the material became a retrograde material;
2. If the material has been returned to the original manufacturer, one year after the material is returned to the original manufacturer.

RECYCLE- To use, reuse, or reclaim a hazardous waste, including the recovery of resources from a hazardous waste.

REGISTERED HAZARDOUS WASTE TRANSPORTER- A transporter registered with CAL-EPA, DTSC to transport hazardous wastes.

REMEDIATION WASTE- All solid and hazardous wastes, hazardous substances, and all media (including groundwater, surface water, soils, and sediments) and debris, which contain listed hazardous wastes or which themselves exhibit a hazardous waste characteristic, that are managed for the purpose of implementing corrective action requirements under 22 CCR articles 6, 15.5, or 17 of section 66264 or article 18 of chapter section 66265, HSC sections 25200.10 or 25187, or section 25358.9

where as provided for under the provisions of that section the DTSC has excluded the removal or remedial action at a site from the hazardous waste facilities permit required by HSC section 25201, or federal RCRA section 3005 [Title 42, U.S.C., section 6925]. For a given facility, remediation wastes may originate only from within the facility boundary.

RESTRICTED HAZARDOUS WASTE- Means any hazardous waste which is subject to land disposal restriction pursuant to HSC section 25179.6 or 22 CCR section 66268.

RETROGRADE MATERIAL- Any hazardous material which is not to be used, sold or distributed for use in an originally intended or prescribed manner or for an originally intended or prescribed purpose and which meets any one or more of the following criteria:

(a) Has undergone chemical, biochemical, physical, or other changes due to the passage of time or the environmental conditions under which it was stored.
(b) Has exceeded a specified or recommended shelf life
(c) Is banned by law, regulation, ordinance or decree.
(d) Cannot be used for reasons of economics, health or safety, or environmental hazard.

Retrograde material does not include material listed in 22 CCR section 66261.33 if either of the following conditions is met:

1. The material is used in a manner constituting disposal and the material is not normally used in a manner constituting disposal;
2. The material is burned for energy recovery and the material is not normally burned for energy recovery.

RUN-OFF- Any rainwater, leachate or other liquid that drains over land from any part of a facility

RUN-ON- Any rainwater, leachate or other liquid that drains over land onto any part of a facility.

SCRAP METAL- Any one or more of the following:

(a) Manufactured, solid metal objects and products;
(b) Metal workings, including cuttings, trimmings, stampings, grindings, shavings and sandings; or
(c) Solid metal residues of metal production.
Scrap metal excludes all of the following:

1. Lead-acid storage batteries, waste elemental mercury, and water-reactive metals such as sodium, potassium and lithium;
2. Magnesium borings, trimmings, grindings, shavings and sandings and any other forms capable of producing independent combustion;
3. Beryllium borings, trimmings, grindings, shavings, sandings and any other forms capable of producing adverse health effects or environmental harm in the opinion of the Department;
4. Any metal contaminated with a hazardous waste, such that the contaminated metal exhibits any characteristic of a hazardous waste under article 3 of chapter 11 of this division;
5. Any metal contaminated with an oil that is a hazardous waste and that is free-flowing;
6. Sludges, fine powders, semi-solids and liquid solutions that are hazardous wastes.

SLUDGE- The solids removed from wastewater during treatment.

SMALL QUANTITY GENERATOR- A generator who generates less than 1,000 kg of hazardous waste or less than 1 kg of extremely/acutely hazardous waste in a calendar month.

SOLUBLE THRESHOLD LIMIT CONCENTRATION (STLC)- The concentration of a solubilized and extractable bioaccumulative or persistent toxic substance which, if equaled or exceeded in a waste or waste extract determined pursuant to Appendix II of 22 CCR section 66261 renders the waste hazardous.

SOURCE REDUCTION- Source reduction is defined in the California Hazardous Waste Source Reduction and Management Review Act of 1989 (SB 14) as any of the following:

1. any action that causes a net reduction in the generation of hazardous waste.
2. any action taken before the hazardous waste is generated that results in a lessening of the properties which cause it to be classified as a hazardous waste.

STATIONARY TANK- A tank which is designed to be stationary when empty or full.

STORAGE- The containment of hazardous wastes, either on a temporary basis or for a period of years, in such a manner as not to constitute disposal or use of such hazardous waste.

STORAGE FACILITY-

(a) A permitted hazardous waste facility at which the hazardous waste meets any of HSC Section 25123 as follows:
1. The hazardous waste is contained for periods greater than 90, 180 or 180 days at an on-site facility (depending on the volume of waste generated per calendar month).

2. The total amount of hazardous waste accumulated at the facility at any one time exceeds 50,000 gallons.
3. The hazardous waste is contained for any period of time at an off-site facility which is not a transfer facility.
4. The hazardous waste is contained at a transfer facility for periods greater than 144 hours.

(b) The time period for calculating the 90 to 270 day period begins when the facility has accumulated 100 kilograms of hazardous waste or one kilogram of extremely hazardous waste or if greater than the above amounts of hazardous waste or extremely hazardous waste is collected during any calendar month, the time period begins when any amount of hazardous waste first begins to accumulate.
(c) For purposes of this section, "transfer facility" means any off-site facility which is related to the transportation of hazardous waste, including, but nor limited to, loading docks, parking areas, storage areas, and other similar areas where shipments of hazardous waste are held during the normal course of transportation.

STORM WATER RUNOFF (associated with industrial activity) - Rain and storm water runoff, snow melt runoff, and storm water surface runoff and drainage directly related to manufacturing, processing, or raw materials storage areas at an industrial plant or commercial facility. The term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials; manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process/industrial wastewaters; sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water.

For most facilities, the term only includes storm water discharges from all areas listed in the previous paragraph where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water.
Material handling activities include the: storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product, or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas.

SPECIAL WASTE- A waste which is a hazardous waste only because it contains an inorganic substance or substances which cause it to pose a chronic toxicity hazard to human health or the environment and which meets all of the criteria and requirements of 22 CCR section 66261.122 and has been classified a special waste pursuant to 22 CCR section 66261.124.

SPENT MATERIAL- Any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing.

STLC- See Soluble Threshold Limit Concentration.

STORAGE- The holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of or stored elsewhere.

SURPLUS MATERIAL- An unused raw material or commercial product obtained by a person who intended to use or sell it, but who no longer needs it, and who transfers ownership of it to another person for use in a manner for which the material or product is commonly used. Surplus material is excess material.

Surplus material is neither of the following:

(a) A retrograde material as defined in this section;
(b) A recyclable material as defined in this section.

TANK- A stationary device designed to contain an accumulation of hazardous waste which is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide structural support.

TERATOGEN- A substance that will produce a physical defeat in a developing embryo (not transmissible to next generation).

TIERED PERMIT- A grant of authorization applied for by and granted to a generator (for Fixed Treatment Units) or an operator of a Transportable Treatment Unit to treat specific hazardous wastes on-site using certain treatment methods. The types of Tiered Permits granted include Permit-by-Rule (PBR), Conditional Authorization (CA), Conditional Exemption - Specified Wastestreams (CESW), Conditional Exemption - Small Quantity Treatment (CESQT) and Conditional Exemption - Limited (CEL). The Tiered Permit program is administered by the CUPA or Participating Agency.

TOTAL THRESHOLD LIMIT CONCENTRATION (TTLC)- The concentration of a solubilized, extractable and nonextractable bioaccumulative or persistent toxic

substance which, if equaled or exceeded in a waste, renders the waste hazardous.

TOXIC- Any material which, either directly or indirectly, may constitute a hazard to life or health, either temporary or permanent from exposure by contact, inhalation, or ingestion.

TOXICITY- The capacity of a substance to either directly or indirectly, constitute a hazard to life or health (relative term).

ACUTE TOXICITY- Involves exposure to a relatively high concentration of a material over a relatively short period of time (seconds, minutes, hours). Relationship of exposure and effects are quite apparent.

CHRONIC TOXICITY- Involves exposure to relatively low concentrations over relatively long periods of time (months, years); more difficult to relate the specific closure to the specific effect.

LOCAL TOXICITY- Refers to local action of a toxic material at the site of exposure, such as on the skin, mucus membranes of upper-respiratory tract, or the eyes.

SYSTEMIC-TOXICITY- The action of a toxic substance when absorbed into the body (by inhalation, ingestion, or through the skin).

TRANSFER STATION- Any hazardous waste facility where hazardous wastes are loaded, unloaded, pumped, or packaged.

TRANSPORT VEHICLE- A motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body (trailer, railroad freight car, etc.) is a separate transport vehicle.

TRANSPORTABLE TREATMENT UNIT- Any mobile equipment which performs a "treatment" as defined in this section and which is transported onto a facility to perform treatment and which is not permanently stationed at a single facility.

TRANSPORTATION- The movement of hazardous waste by air, rail, highway or water.
TRANSPORTER- A person engaged in the off-site transportation of hazardous waste by air, rail, highway or water. Same as 'hauler'.

TREATMENT- Any method, technique or process, including neutralization, designed to change the physical, chemical or biological character or composition of any hazardous waste so as to neutralize such waste or so as to recover energy or material resources from the waste or so as to render such waste nonhazardous or less hazardous; safer to transport, store or dispose of; or amendable for reuse, amendable for storage, or reduction in volume.

TRUCK- A motor vehicle excluding truck tractor, designed, used or maintained primarily for the transportation of property or waste.

TTLC- See Total Threshold Limit Concentration.

UNIFORM HAZARDOUS WASTE MANIFEST- See Manifest.

USED OR REUSED- A material that is either:

(a) Employed as an ingredient, including use as an intermediate, in an industrial process to make a product (for example, distillation bottoms from one process used as feedstock in another process). However, a material will not satisfy this condition if distinct components of the material are recovered as separate end products (as when metals are recovered from metal-containing secondary materials); or
(b) Employed in a particular function or application as an effective substitute for a commercial product (for example, spent pickle liquor used as phosphorous precipitant and sludge conditioner in wastewater treatment).

VACUUM TRUCK- A cargo tank which has the capability of being subjected to a vacuum or a pressure for purposes of loading and unloading its contents.

VARIANCE- A formal DTSC-authorized deviation from a provision of the regulations.

WASTE- Any of the following

(a) Any material for which no use or reuse is intended and which is to be discarded.
(b) Any recyclable material.
(c) Any material which poses a threat to public health or the environment and which meets either both of the following conditions:

1. Is mislabeled or is not adequately labeled, unless the material is correctly labeled or adequately labeled within 10 days after the material is discovered to be mislabeled or inadequately labeled.
2. Is packaged in deteriorated or damaged containers, unless the material is contained in sound or undamaged containers within 4 days after the containers are discovered to be deteriorated or damaged.

WATER REACTIVE- Having properties of, when contacted by water, reacting violently, generating extreme heat, burning, exploding or rapidly reacting to produce an ignitable, toxic or corrosive mist, vapor or gas.

ACRONYMS

AB - Assembly Bill

BMP - Best Management Practices

CAL- ARP - California Accidental Release Program

CAL/OSHA - California Occupational Safety and Health Agency

CAL-EPA - California Environmental Protection Agency

CERCLA - Comprehensive Environmental Response, Compensation and Liability Act (Superfund)

CFR - Code of Federal Regulations

CHEMTREC - Chemical Transportation Emergency Center (24 Hour Assistance Hotline for Chemical Transportation Emergencies

CUPA - Certified Unified Program Agency

DHS - Department of Health Services

DOT- US Department of Transportation

DTSC - Department of Toxic Substances Control

EPA - United States Environmental Protection Agency

FR - Federal Register

FTU - Fixed Treatment Unit

GISP - General Industrial Stormwater Permit

HSC - California Health and Safety Code

HSWA - Hazardous and Solid Waste Amendments

HWCL - California Hazardous Waste Control Law

HSAA - California Hazardous Substance Account Act

IIPP - Injury and Illness Prevention Program

LAMC - Los Angeles Municipal Code

LDR - Land Disposal Restriction

LEL - Lower Explosive Limit

MSDS - Material Safety Data Sheet

NOI - Notice of Intent

NPDES - National Pollutant Discharge and Elimination

NRC - National Response Center

OES - State Office of Emergency Services

OSHA - Occupational Safety and Health Administration

PA - Participating Agency

PBR - Permit By Rule

PEL - Permissible Exposure Limit

POTW - Publicly Owned Treatment Works

RCRA - Resource Conversation and Recovery Act

RMP - Risk Management Plan

RMPP - Risk Management Prevention Plan

RWQMD - South Coast Air Quality Management District

SIC - Standard Industrial Classification

STEL - Short Term Exposure Limit

STLC - Soluble Threshold Limit Concentration

TLV - Threshold Limit Value

TRI - Toxic Release Inventory

TSD - Treatment, Storage and Disposal

TSDF - Treatment, Storage and Disposal Facility

TTLC - Total Threshold Limit Concentration

TTU - Transportable Treatment Unit

TWA - Time Weighted Average

UEL - Upper Explosive Limit

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City of Los Angeles Environmental Affairs Department
Lillian Kawasaki, General Manager
Wayne Tsuda, Materials and Waste Resources Division Director
Lance Brown, Environmental Supervisor, Air Quality Division
Jennifer Edge, Industrial Hygienist, Local Enforcement Agency

City of Los Angeles Fire Department (Certfied, Unified Program Agency - CUPA)
David W. Myers, Fire Protection Engineering Associate IV

City of Los Angeles Department of Public Works, Bureau of Sanitation
Sheila Brice, Sanitary Engineering Associate
Vivian Marquez, Senior Industrial Waste Inspector
Bruce Mok, Sanitary Engineer
Tim DeMoss, Sanitary Engineering Associate II

California Environmental Protection Agency
Kathy Barwick Fox, Senior Scientist
Jim Bohon, Chief, Generator Information Services Section
Ken Chiang, Project Manager
Gail McNeal, Associate Government Program Analyst

County of Los Angeles, Fire Department, Health and Hazardous Materials Division
Miguel Garcia, Supervising Hazardous Materials Specialist

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GOVERNMENT AGENCIES

City of Los Angeles, Board of Public Works
Percy Duran III, President

City of Los Angeles, Department of Water and Power
Daniel Waters, General Manager

City of Los Angeles, Hazardous & Toxic Materials Office
Donna Toy-Chen, Project Manager
Mark N. Nakata, Management Assistant

City of Los Angeles, Bureau of Engineering, Stormwater Management Division
Phillip Richardson, Division Manager
Chuck Ellis, Public Relations Information Director
Angela M. Franklin, Public Relations Specialist II

City of Los Angeles, Bureau of Sanitation
Vince Varsh, Division Manager
Tara Lusk, Sanitation Engineering Associate

Los Angeles City Fire Department, Hazardous Material Division
Rinly Gecosala, P.E., M.D., RMPP Manager
David W. Myers, Fire Protection Engineering Associate II

Los Angeles County Fire Department, Health Hazardous Material Division
Tom Klinger, Supervising Hazardous Materials Specialist
Miguel Garcia, Supervising Hazardous Materials Specialist

South Coast Air Quality Management District, Air Toxics Program
Mohsen Nazemi, Senior Manager

State of California, Environmental Protection Agency (CAL EPA), DTSC
Dennis Dickerson, Regional Administrator
Scott Harris, Associate Hazardous Hazardous Materials Specialist

State of California, Occupational Safety and Health Agency (Cal/OSHA)
Robert Garcia, Regional Manager
Dennis Keith, Senior Industrial Hygienist

INDUSTRY

American Banknote Co., Los Angeles Div. (Jeffries Banknote)
George Gurian, Senior Vice President
Delia L. Lorenzon, Quality Assurance Manager - Environmental Concerns Coordinator

ARCO Products
David A. Smith, Manager of Enviromental, Health & Safety Issues

Automotive Club of Southern California
Herman Fuette, Manager of Building Services

Baker & McKenzie
Todd O. Maiden, Esq. (Environmental)

Bank of America
Candace Skarlatos, Vice President, Environmental Policies and Programs

California Safety Council
Elizabeth A Chun, Program Director
Laura A Guerena, Program Coordinator
Douglas H. Hinesley, Director of Government Relations

Cedars-Sinai Medical Center
Conn J. Flately, Vice President Support Services

Chemical Waste Management, Inc.
Lily Y. Lee, Communications Manager

Cinema Safety Products
C. Dwight Hinesley, Vice President

City of Hope, National Medical Center
Umesh C. Khandelwal, Director of Health and Safety

City of Hope, National Medical Center
Umesh C. Khandelwal, Director of Health and Safety

Gibson Environmental, Inc.
Mary Rutledge, Government Relations

H.R. Textron
Richard J. Millman, President
Leah Markowitz, Ph.D., Senior Engineer

Kaiser Permanente
Thomas Schipper, Regional Director of Plant Technology and Safety Management
Lloyd Duplechan, Coordinator Environmental Risk Management and Safety

Los Angeles Area Chamber of Commerce
Lawrence Bacharach, Program Director

Los Angeles Times
Al Perez, Safety Director

MCA, Inc.
Bob Debner, Corporate Director Loss Control and Environmental Affairs

National Resource Safety Center
Douglas H. Hinesley, Principal
C. Dwight Hinesley, Principal

Pacific Coast Lacquer
Sandra B. Skommesa, President

Allen S. Press, M.D.

Queen of Angels-Hollywood Presbyterian Medical Center
Susan V. Denton, Director of Hospitality Services
Timothy Ogata, Vice President, Professional Services

R.R. Donnelley & Sons Co.
Craig Gorman, Technical Specialist

Clayton J. Schwitz, M.D.

Superior Chrome Plating Co.
Anthony Yomi Shonuyi, Vice President

Texaco, Inc.
Barbara A. Kornylo, Public and Governmental Affairs Assistant

Toyota Motor Sales USA., Inc.
Cecil Ransom, Compliance Director

University of California, Los Angeles - Environmental Division
Victor Kennedy, Associate Director

Unocal Corporation
John L. Rafuse, Manager Government Relations

Warner Brothers
Lila Woo, Director of Corporate Traffic

CHAPTER SUMMARY

- Compliance with hazardous waste laws, if done in an informed manner, can save you money and protect your financial investment in the long term.
- Other incentives include: product quality improvement, reduced liability, employee moral, government assistance programs, and a positive public image.
- Hazardous waste generators are legally responsible for proper handling, treatment, storage and disposal.
- RCRA regulations provide the framework for the national hazardous waste management tracking system.
- HSWA updated RCRA to impose restrictions on land disposal of most hazardous and toxic wastes and establish waste minimization as a national policy.
- The Comprehensive Environmental Response, Compensation and Liability Act (Superfund) ensures the clean-up of abandoned waste dumps.
- SARA amended Superfund and adds new hazardous materials reporting requirements.
- HWCL is the basic hazardous waste control law in California.
- Most state hazardous waste regulations are in Title 22, California Code of Regulations and California Health and Safety Code, Division 20.
- The Los Angeles City Fire Department is the Certified Unified Program Agency (CUPA) administering and enforcing state and local hazardous materials regulations within the City of Los Angeles.
- The Los Angeles County Fire Department is the Participating Agency administering and enforcing state hazardous waste regulations within the City of Los Angeles.

CHAPTER 1

WHY SHOULD I BE CONCERNED ABOUT HAZARDOUS WASTE REGULATIONS?

Complying With Hazardous Waste Laws Will Not Save Me Any Money... or Will It?

In today's business world with higher taxes, workers compensation insurance, and increasing government regulations, the cost of doing business seems to be constantly increasing. Workers compensation insurance only increases if you have an illness or injury and government regulations and taxes are here to stay. So, what is the answer? The answer is that every business needs to protect its investments.

You can protect your investments by minimizing your risks in several ways.

These include:

1. Reducing your exposure to possible legal liability;
2. Reducing your cost during business operations;
3. Reducing employee exposure to work related illnesses and injuries; and
4. Taking an active role to impress upon your employees the importance of controlling hazardous waste and complying with the regulations.

How Do I Save Money?

The answer is not easy and it will take a conscious effort on your part to make it happen.

Complying with the laws and regulations regarding the handling and disposal of hazardous wastes can reduce your exposure to civil and criminal liability. Illegal disposal of hazardous materials can not only be expensive; it can also have criminal implications with prison sentences.

Large fines and criminal sanctions are constantly being levied against the owners of local businesses found to be violating hazardous waste laws and regulations.

The fines can be as high as $25,000.00 per violation and six months in prison!

The illegal dumping of hazardous waste on your property (even if it is not by you) can cause expensive clean-up charges and fines, as well as produce problems in the sale of your property in the future.

Employee job-related illnesses and injuries cause workers compensation to increase and will minimize the effectiveness of your workforce. An injury, illness or employee complaint can bring both your insurance company and Cal/OSHA to your door.

Your insurance company will want to know why you are having job-related illnesses or injuries and could reevaluate your business for rate increases or even terminate your insurance policy. Cal/OSHA will want to review your written injury and illness prevention program, hazard communication program and employee training documentation among other things. This can mean expensive fines and disruption of your business operation.

To minimize these risks you need to know the regulations and conduct an evaluation of your processes to determine what regulations may apply. Many businesses may be exempt from several of the regulations. Once you have made your evaluation and reviewed the regulations, you can now establish a program to minimize these costs and risks.

The only intelligent option for any business is to fully comply with the laws and regulations, thereby reducing the risks to your investment.

Other Incentives

Economic incentives are by themselves compelling reasons for manufacturers to be in compliance. However, there are additional incentives:

- Healthy Environment
- Employee Moral
- Improved Product Quality
- Reduced Legal Liabilities
- Government Assistance Programs
- Positive Public Image

Hazardous waste management, like most preventive measures, works as a catalyst in its positive effects for your company. Hazardous waste minimization and management can improve product quality and significantly reduce environmental compliance and waste disposal costs. Avoiding hazardous substance emissions also creates a healthier workplace for employees and boosts employee productivity. Not only is your business being conscious of the health of its employees but you are also taking steps in environmental safety as well. Compliance with hazardous waste regulations allows for your company to be viewed by the public as a company interested in environmental awareness.

We, as a country, are beginning to realize that the quality of life, for future generations, and ourselves depends on a healthy and sustainable environment. Preventing the deterioration of the environment is a responsibility shared by both producers and consumers.

Who Is Legally Responsible?

It is the hazardous waste generator's responsibility to comply with the regulations regarding the use, disposal and management of hazardous materials and wastes as well as ensure that all employees do the same.

It is the generator's sole responsibility to follow all federal, state, county and city laws and regulations and to maintain a safe and healthful place of employment.

As a generator, you are presumed to have knowledge of all laws and regulations.

If proper procedures are not followed, you, the hazardous waste generator, will be held responsible and subject to severe fines, imprisonment, or both. You can also be held responsible in any civil lawsuits filed by injured workers or members of the community.

It is for the purpose of helping businesses sift through the masses of regulations and means of hazardous waste management, that this Guide has been put together. This book is to be a resource for businesses to educate themselves on hazardous waste management processes as well as to serve as a reference guide to other agencies and sources that can help in organizing your way to compliance.

What Are the Laws and Regulations?

As a Los Angeles business and generator of hazardous wastes, you are legally responsible for the management of your wastes. These responsibilities and liabilities need to be taken seriously.

The laws, regulations, and court decisions all agree that this responsibility does not end when the wastes are turned over to a registered, certified hauler or manifested to a fully permitted hazardous waste treatment, storage or disposal facility. This "perpetual" (or cradle-to-grave) liability is one of the consequences of decades of improper or inappropriate waste handling and disposal of an estimated 90 percent of the wastes generated in the United States.

The lawmakers have determined that liability must be imposed to expedite the cleanup of currently contaminated sites and serve as a sufficient deterrent to prevent future improper hazardous waste management. The extent of this liability is periodically reviewed by lawmakers and the agencies, and may be modified in the future. Currently, this liability is imposed regardless of whether the generator is at fault, and responsible parties were held liable for any or all of the cleanup costs at a particular site.

Given the extraordinary burden of liability, businesses that generate hazardous wastes are finding preventative action, through a viable hazardous waste minimization program, can combat the high costs of compliance to the stringent hazardous waste control laws and regulations in this area.

The following is a summary of federal, state and local laws governing hazardous waste.

Federal Laws and Regulations

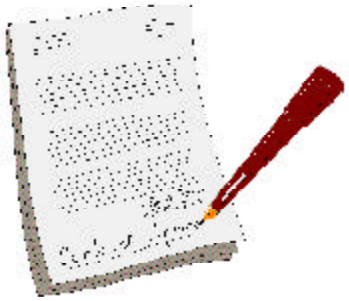
Code of Federal Regulations (CFR)
Title 40, Code of Federal Regulations, is a collection of Environmental Protection Agency regulations, published by the Federal Government. 40 CFR Parts (or Sections) 260 - 279 are the primary federal rules for hazardous waste management. Other major relevant laws and CFR Titles/ Sections are summarized below.

New finalized regulations established by the U.S. EPA, DOT (Department of Transportation), and OSHA generally take effect soon after being published in the Federal Register and may amend, replace or add to regulations found in CFR. An electronic version of the Federal Register and the CFR can be accessed through EPA's World Wide Web site at

http://www.epa.gov/epahome/lawreg.htm.

RCRA (40 CFR, 260 et seq.)
The Resource Conservation and Recovery Act (RCRA) enacted by Congress in 1976, was the nation's attempt to address the potential health and environmental problems associated with hazardous and solid waste disposal.

RCRA required the EPA to develop regulations to implement its provisions and provide the general framework of the national hazardous waste management system. This framework includes the determination of whether hazardous wastes are being generated, requirements for safe management of wastes, procedures for tracking wastes from the generator to the eventual disposal, developing waste treatment standards, and permitting of hazardous waste management facilities. RCRA also allows EPA to authorize states to administer their own hazardous waste regulatory program. Most states, including California, have full EPA-authorized hazardous waste regulatory programs.



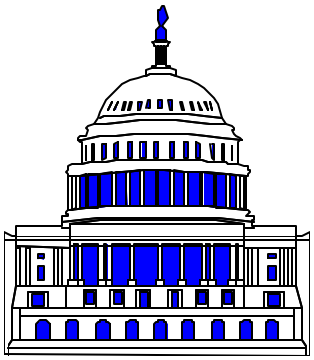
HSWA (40 CFR, 260 et seq.)
The Hazardous and Solid Waste Amendments (HSWA) was passed by Congress in 1984 to address regulatory gaps in the RCRA program in the area of (prohibiting) land disposal of untreated highly toxic and otherwise hazardous wastes and established waste minimization as a national policy.

CERCLA (40 CFR, 300 et seq.)
The Comprehensive Environmental Response, Compensation and Liability Act, also known as Superfund, was enacted in 1980 to ensure that a source of funds (originally $1.7 billion, currently $9 billion) is available to clean up abandoned hazardous waste dumps, prioritize site cleanup sites, address releases of hazardous materials, and establish liability standards for responsible parties. California's version of Superfund, the California Hazardous Substances Account Act works in a similar way for California-identified clean-up sites, pays California's share of federal Superfund site cleanups in California, and compensates victims of releases.

SARA (40 CFR, 300 et seq.)
The Superfund Amendments and Reauthorization Act (SARA) was enacted in 1986 to increase the Superfund, modify contaminated site cleanup criteria scheduling and revise settlement procedures.

SARA also provides a fund for leaking underground storage tank cleanups and established a broad, new emergency planning and community right-to-know program, including the required annual reporting of routine and non-routine releases of certain toxic chemicals.

U.S. DOT (49 CFR, 171-179,190-197)
The U.S. Department of Transportation's Research and Special Programs Administration regulates the transportation of hazardous materials and wastes, including requirements for packaging, labeling, and documenting hazardous materials and waste shipments. Locally, the California Highway Patrol enforces transportation regulations, with assistance by regional DOT offices and the Los Angeles Police Department.

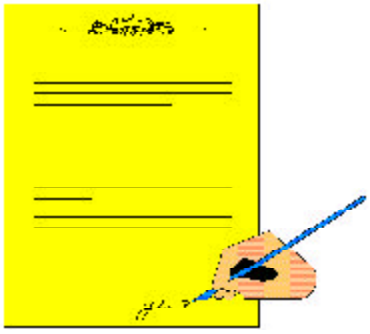


Amendments to DOT regulations in the past several years include training requirements for all persons who package, mark, load, and/or certify hazardous materials and hazardous wastes for transport, and significant changes to packaging requirements and hazardous material classifications.

State of California Laws and Regulations

HWCL (Chp 6.5, Health and Safety Code (HSC) Section 25100 et. seq.,)
The Hazardous Waste Control Law (HWCL) is the basic hazardous waste law/statute in California. The HWCL implements the federal Resource Conservation Recovery Act (RCRA) as a "cradle-to-grave" waste management system in California. HWCL specifies that generators have the primary duty to determine whether their wastes are hazardous and to assure its proper management. The HWCL also established criteria for the reuse and recycling of hazardous wastes (re)used as raw materials.

The California HWCL exceeds federal requirements by mandating source reduction planning, and a much broader requirement for permitting facilities that treat hazardous waste. It also regulates a number of types of wastes and waste management activities that are not covered by the federal law under RCRA.



The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), is the agency responsible for enforcing the HWCL, and has promulgated detailed regulations (Title 22, CCR) implementing the HWCL. In 1992, California was granted authorization by the U.S. EPA to also enforce the federal RCRA hazardous waste laws and regulations.

The California HSC, Chapter 6.5 can either be ordered from the Department of General Services, Publications Office, P.O. Box 1015, North Highlands, CA 95660 (1-916-574-2200) or can be accessed onlineat
http://www.leginfo.ca.gov/calaw.htm

California Code of Regulations (Title 22, Division 4.5 CCR)
compliance requirements for hazardous waste generators, transporters, and treatment, storage and disposal facilities. Because California is a fully authorized state under RCRA, most RCRA regulations (those contained in 40 CFR 260 et. seq.) have been duplicated and integrated into Title 22. However, because DTSC regulates hazardous waste more stringently than EPA, the integrated combination of California and federal hazardous waste regulations that make up Title 22 do not contain as many exemptions or exclusions as does 40 CFR. As with the California Health and Safety Code (HSC), Title 22 also regulates a wider range of waste types and waste management activities than does the RCRA regulations in 40 CFR.

To aid the regulated community, California compiled all of the various hazardous materials, waste and toxics-related regulations contained in CCR, Titles 3, 8, 13, 17, 19, 22 - 24 and 27 into one consolidated CCR Title 26 'Toxics'. However, the California hazardous waste regulations are still commonly referred to as Title 22.

As with the CFR, the CCR is updated and amended periodically. California hazardous waste regulations are available online at http://ccr.oal.ca.gov/.
The various CCR Titles may also be ordered in hard copy or on disk from Barclays Law Publishers, P.O. Box 3066, South San Francisco, CA 94083 (1-800-888-3600).

Cal-OSHA (Title 8, CCR)
In addition to a wide range of occupational health and safety requirements and standards applicable to California businesses and industry, Senate Bill 198 passed in 1991 requires every employer in California, regardless of size or industry, to implement an Injury and Illness Prevention Program (IIPP). The IIPP must be a written plan that describes procedures that are to be put into practice to maintain a safe and healthful workplace.

This written plan should emphasize the periodic evaluation of workplace safety and communication of safety requirements and issues. The IIPP must contain the following points:

1. Designate administration and management of the program;
2. Train employees in hazards of specific job tasks;
3. Enforce employee compliance with safety rules (have progressive discipline or reward);
4. Develop a line of communication for employees to identify observed hazards and report them back to management;
5. Perform periodic safety inspections; and
6. Conduct accident investigations.

For more information on a viable Injury and Illness Prevention Plan refer to the CCR, Title 8, Section 3203. The regional Cal/OSHA office - Consultation Branch can provide your business with a variety of compliance tools, guidelines and other assistance. Chapter 8 discusses IIPPs and contains a listing of CalOSHA's various Los Angeles area offices.

Safe Drinking Water and Toxic Enforcement Act (Prop. 65)
This State law, enacted in 1986, requires any facility found to use chemicals causing cancer or birth defects to provide an exposure warning to their employees and the community at large unless the exposure is determined (through various technical means) to pose an insignificant risk.

The law permits a citizen to take the facility to court, if the facility did not take steps to provide information to the public. This can be done through notices in local newspapers and signs inside and around the business property.

Los Angeles City and County Hazardous Waste Regulatory Program (Certified Unified Program Agency and Participating Agency)
Senate Bill 1082, passed by the California Legislature in 1993, created the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program), which requires the administrative consolidation of six hazardous materials and waste programs (Program Elements) under one agency, a Certified Unified Program Agency (CUPA). The Program Elements consolidated under the Unified Program are:

- Hazardous Waste Generator;
- On-Site Hazardous Waste Treatment Programs (also known as Tiered Permitting);
- Hazardous Material Underground Storage Tank Program (UST);
- Aboveground Petroleum Storage Tank Spill Prevention Control and Countermeasure Plan (SPCC);
- Hazardous Materials Release Response Plans and Inventory Program (a.k.a. Hazardous Materials Disclosure or "Community-Right-To-Know");
- California Accidental Release Prevention Program (the Cal ARP Program replaced the Risk Management and Prevention Program or RMPP, which now includes additional federal requirements); and
- Uniform Fire Code Plans and Inventory Requirements.

The goal of the Unified Program is to create a more cohesive, effective and efficient program. Under the Unified Program, application and required submission forms are standardized and consolidated, inspections are combined where possible, annual fees for each program element are merged into a single fee system, and enforcement procedures are made more consistent.

Local agencies administering one or more of the six Program Elements had the option to either apply for CUPA status with the CalEPA or retain their programs by becoming a Participating Agency (PA) under another CUPA's jurisdiction. Counties were required to apply for CUPA designation. Eight CUPAs within the Los Angeles County area received certification from CalEPA to implement the CUPA program effective July 1, 1997 including the City of Los Angeles and the County of Los Angeles. The Los Angeles County CUPA (Los Angeles County Fire Department) implements the Unified Program in all unincorporated and incorporated

areas of the County not within the jurisdiction of the other seven CUPAs.

The CUPA regulations (Title 27 CCR) allow one or more agencies within the CUPA's geographic area to administer and regulate one or more of the above programs in coordination with the CUPA. These are called 'Participating Agencies' or PAs. While the Los Angeles City Fire Department is the CUPA for business in the incorporated area of the City of Los Angeles, the Los Angeles County Fire Department's Health Hazardous Materials Division administers and enforces Hazardous Waste Generator and Tiered Permit programs within the cities of Los Angeles and Santa Monica as a Participating Agency.

The **County Environmental Crimes - OSHA Division** in the District Attorney's Office, prosecutes generators suspected of committing hazardous waste crimes related to employee exposure and illegal dumping.

Los Angeles City Regulations

City of Los Angeles Codes and Ordinances (LA.M.C. 57 & 6430)
Under the Federal Water Pollution Control Act, the Los Angeles Municipal Code has established source control ordinances for the control of industrial waste water disposal.

The Los Angeles City Fire Code and the California Health and Safety Code establishes fire safety standards for the handling, storage and disclosure of hazardous materials and wastes.

As the CUPA in the City of Los Angeles, the Los Angeles City Fire Department administers and enforces the Hazardous Materials Release Response (Business Emergency) Plan And Inventory Program, and the California Accidental Release Prevention Program (Cal ARP; this program includes federal requirements and replaced the state Risk Management and Prevention Program or (RMPP)).

If you are located outside the incorporated area of the City of Los Angeles (such as in Glendale, Santa Monica, El Segundo, Vernon, Santa Fe Springs, Long Beach/Signal Hill and others) check with your local fire department for your particular hazardous materials and hazardous waste requirements.

NOTES

CHAPTER SUMMARY

- *If your company generates wastes that are ignitable, toxic, reactive, corrosive, persistent, bioaccumulative, or carcinogenic you may be a hazardous waste generator.*
- *RCRA hazardous wastes are regulated both by EPA and DTSC and are considered hazardous wastes in all states.*
- *Non-RCRA hazardous wastes are regulated as hazardous wastes in California by DTSC.*
- *Title 22, California Code of Regulations (CCR), Section 66261.4 and California Health and Safety Code, Section 25243.2, contains the exemptions, exclusions and reuse/on-site recycling exemptions for hazardous wastes.*
- *Title 22, CCR, Section 66261.100 generally defines a RCRA hazardous waste, with RCRA-Listed hazardous wastes listed in Sections 66261.30 - 66261.33.*
- *Title 22, CCR, Section 66261.101 generally defines a Non-RCRA hazardous waste, with a list of chemical and common names of hazardous wastes in Appendices X and XII of Title 22, CCR, Chapter 11.*
- *RCRA and Non-RCRA hazardous waste characteristics are listed in Title 22, CCR, Section 66261.21 - 66261.24.*
- *Wastes not specifically listed in Title 22 (or mixtures of Non-RCRA wastes) may require testing by a state certified laboratory to determine if it meets one or more hazardous waste characteristics.*
- *Material Safety Data Sheets (MSDSs) obtained from your chemical/ hazardous material suppliers or manufacturers can help you determine if the used or unused product is a hazardous waste.*
- *Other types of regulated wastes include fluorescent and other lamps, spent batteries, computer monitors and empty containers.*
- *Extremely hazardous wastes are subject to more stringent management requirements.*
- *Large Quantity Generators generate over 1,000 kilograms (2,200 pounds) of RCRA hazardous wastes per calendar month; Small Quantity Generators generate less than 1,000 kilograms of RCRA hazardous wastes per month.*
- *Small Quantity Generators have slightly relaxed compliance requirements.*

CHAPTER 2

WHAT IS A HAZARDOUS WASTE and WHO ARE HAZARDOUS WASTE GENERATORS?

Thousands of Los Angeles Businesses Generate Hazardous Wastes

The City of Los Angeles is the home for thousands of businesses of all types and sizes. Many of those businesses use a wide variety of chemicals and other materials that are considered hazardous. If your business uses hazardous materials and disposes of the waste products, you are probably a hazardous waste generator. As a hazardous waste generator, you are subject to federal, state, and local laws, regulations, licenses and permit requirements.

According to both federal and California regulations, a hazardous waste generator is any business or facility (including public and government) whose act or process produces hazardous waste or combination of wastes or whose act first causes a hazardous waste to become subject to regulation. A list of common hazardous waste types generated by various types of generators is contained at the end of this Chapter in Table 1. This information is not all-inclusive, however. To determine if you are a hazardous waste generator, you should follow the steps described later in this Chapter.

What is a Hazardous Waste?

Hazardous wastes are broadly defined as a waste or combination of wastes, which because of it's quantity, concentration, or physical, or chemical characteristics may either:

(1) Cause, or significantly contribute to or increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or

(2) Pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

A hazardous waste can be a solid, semi-solid, liquid or a contained gaseous substance that may have one or more of the following properties:

- IGNITABLE

- TOXIC
- REACTIVE
- CORROSIVE
- PERSISTENT OR BIOACCUMULATIVE
- CARCINOGENIC

These terms are defined in the "Glossary of Terms" section of this Guide. Many wastes are listed by name in federal and state regulations and some must be tested or otherwise evaluated to determine if the waste exhibits hazardous characteristics. Any analytical work performed for hazardous waste classification purposes must be performed by a state certified hazardous waste testing lab.

A partial list of hazardous wastes can be found in Title 22, California Code of Regulations (CCR); Section 66261.30-6261.33 and 22 CCR, Chapter 11, Appendices X and XII. If a waste contains an item listed, the waste is presumed hazardous. Wastes not specifically listed in Title 22 (or mixtures of non-RCRA wastes) may require testing by a state certified laboratory or be otherwise evaluated (using your knowledge of the waste materials, their chemical/physical properties and the waste generating process/operation) to determine if it meets one or more hazardous waste characteristics. A description of hazardous waste characteristics is contained in Title 22, CCR Section 66261.21 - 66261.24. These characteristics are also summarized in this Chapter.

Although they pose health hazards, radioactive wastes and infectious wastes are not regulated as hazardous waste, but are regulated similar to hazardous wastes by the Los Angeles County Department of Health Services and the California Department of Health Services.

Types of Hazardous Waste

For the purpose of the hazardous waste regulatory program, wastes (broadly called 'solid wastes' in the regulations even if not actually in solid form) are defined as being liquid, semi-solid, solid or contained gaseous materials that are being discarded or intended to be discarded - either by being disposed of or recycled, or by being stored before being disposed of or recycled. Materials which must be reclaimed (e.g. treated in some way) before being reused or recycled are also considered 'solid wastes' or wastes.

In order for the waste to be managed under the hazardous waste regulations, it must meet the criteria of hazardous waste.

Under the California program, there are four very broad categories of hazardous wastes (22 CCR Sections 66261.100-66261.126):

- RCRA (or federally-regulated) hazardous wastes;
- Non-RCRA (or California-regulated only) hazardous wastes;
- Extremely hazardous wastes (which are also non-RCRA hazardous wastes); and
- Special Wastes (which are also non-RCRA hazardous wastes).

There are also many regulated wastes which can be managed as non-hazardous only if certain procedures are followed. These are discussed later in this Chapter.

In addition, some wastes and waste-like materials are excluded from regulation as a solid waste or a hazardous waste under Title 22 and the California Health and Safety Code (HSC). These are categorized as being exempt or excluded.

Excluded "Wastes" and "Hazardous Wastes"

Some materials that would otherwise be considered a waste or hazardous waste may be exempt or excluded from regulation as a solid waste or a hazardous waste based on:

- The specific type or category of material (blanket or full exemption);
- The specific manner in which the material is managed, used or reused, recycled or disposed of (conditional exemption).

Examples of materials fully excluded from regulation as a solid or hazardous waste include:

- Most scrap metal;
- Domestic sewage;
- Spent sulfuric acid used to produce virgin sulfuric acid.

Examples of materials conditionally excluded from regulation as a solid or hazardous waste:

- Samples of hazardous wastes sent to a laboratory for analysis;
- Drained used oil filters sent for scrap metal reclamation;
- Materials (wastes) that are:
  - Used or reused as an ingredient in an industrial process to make a product, if the (waste) material is not first reclaimed,
  - Used or reused as a safe and effective substitute for commercial products, if the (waste) material is not first reclaimed,
  - Returned to the original process from which the material was generated, without first being reclaimed.

  The above three conditional exclusions do not apply if the material is burned for energy recovery, used as a fuel, applied or placed in the land or on the land, or is accumulated speculatively (less than 75% used/reused within a calendar year).

Title 22, CCR, Section 66261.4 and California HSC Section 25243.2 - 25243.10, contains the exemptions, exclusions and reuse/on-site recycling exemptions for wastes and hazardous wastes. Hazardous waste generators, reusers and recyclers are cautioned, however, that many of the exclusions and exemptions in Title 22 and the HSC can be quite detailed, with very specific criteria (as well as exceptions to certain criteria) and can be very difficult to understand. Before managing any 'waste' or hazardous waste as an excluded material, you should be very

sure of the specific requirements and restrictions of these regulations and statutes. In addition, generators and/or recyclers/reusers using the use/reuse exclusions must submit a report and records to the L.A. County Fire Department.

RCRA Hazardous Wastes

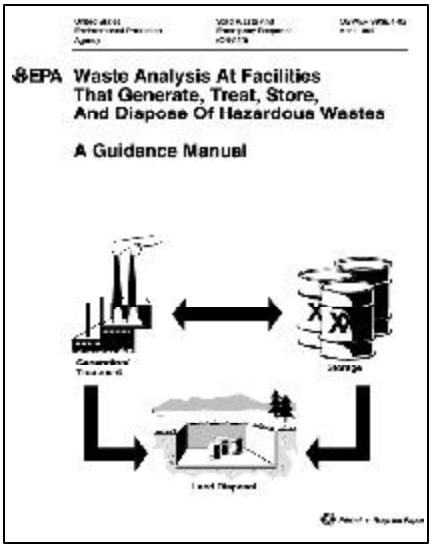
RCRA hazardous wastes are adopted from the federal EPA RCRA program (Title 22, CCR Section 66261.100). These wastes are sometimes referred to as federal or EPA regulated wastes, and are considered hazardous throughout the United States. This category is divided into two groups:

- Listed hazardous wastes (F, K, P, and U waste codes); and
- Characteristic hazardous wastes (D waste codes).

RCRA-Listed Hazardous Wastes

RCRA-listed hazardous wastes are into three lists:

- Non-specific source wastes (F waste codes [or F-listed wastes]);
- Specific source wastes (K waste codes [or K-listed wastes]); and
- Discarded commercial chemical products (P and U waste codes [or P- and U-listed wastes]).



The first list (F-listed wastes) are generic wastes produced by numerous manufacturing and industrial processes, such as spent solvents used in cleaning or degreasing and waste treatment sludges from electroplating. The second list (K-listed wastes) are comprised of very specific wastes from specific identified industries and generating processes such as wood preserving and petroleum refining. The third list (P and U listed wastes) consist of discarded, unused single active ingredient chemical products, such as sodium cyanide, xylene, and acrylonitrile. All P-listed wastes are also classified as 'acutely hazardous wastes' by EPA (see the subsection later in this Chapter on extremely and acutely hazardous waste). There are hundreds of RCRA listed hazardous wastes. These lists can be found in Title 22, CCR, Sections 66261.30 - 66261.33. Note that if the listed waste was listed due to it's toxicity (F- and K-listed wastes with a 'T' or 'H' designation next to each listed waste category; and all P-listed wastes), the listed wastes are regulated as hazardous waste regardless of their concentration or actual as-generated hazard). Due to a significant change in EPA regulations finalized in May 2001, listed wastes listed due to ignitability, reactivity or corrosivity (I, R, or C designations) are regulated as hazardous as long as they still exhibit those hazards.

RCRA Characteristic Hazardous Wastes

RCRA characteristic hazardous wastes are wastes that are not RCRA-listed, but exhibit ignitability, reactivity, corrosivity, or toxic characteristic (TC) as defined by specific tests. Each characteristic requires the use of different criteria for analysis. Wastes may exhibit more than one hazardous characteristic.

<u>Ignitability</u>

Wastes which will easily catch fire (according to the criteria in Title 22, CCR, Section 66261.21) exhibit the hazardous waste characteristic of ignitability. A waste which exhibits any of the following properties is a RCRA ignitable hazardous waste:

- Is a liquid and has a flash point less than 140 °F,
- Is a solid and is readily ignitable by friction, absorption of moisture or spontaneous reaction,
- Is a flammable compressed gas (as defined by DOT in Title 49 CFR), or
- Is an oxidizer (as defined by DOT in Title 49 CFR)

Examples of wastes that might be ignitable are: paint, degreaser or solvent wastes (that are not RCRA-Listed wastes), metal or mineral dusts or powders (e.g. aluminum, magnesium, or phosphorus).

Corrosivity

Wastes which have high or low pH level, or are destructive to living tissue or steel (according to the criteria in Title 22, CCR, Section 66261.22) exhibit the hazardous waste characteristic of corrosivity. A waste which exhibits any of the following properties is a RCRA corrosive hazardous waste (except as noted for non-RCRA corrosives) :

- Liquid wastes which have a pH less than or equal to 2, or greater than or equal to 12.5 (pH ≤2 or pH ≥12.5). Corrosives can be either acids (low pH) or alkaline, caustics, or bases (high pH). NOTE: Solid (non-liquid) waste, when mixed with water have a pH <2 or pH >12.5 are classified as non-RCRA corrosive hazardous wastes.
- Liquid wastes which corrodes steel at a rate greater than 0.25 inches per year (using a certain test). NOTE: Solid (non-liquid) waste, when mixed with water corrode steel over this rate using the same test are classified as non-RCRA corrosive hazardous wastes.

Examples of corrosive wastes are: rust removers, battery acid, caustic hot tank liquid wastes and metal finishing process tank wastes.

Reactivity

Wastes which are unstable and/or produce toxic gases when mixed with water (according to the criteria in Title 22, CCR, Section 66261.23) exhibits the hazardous characteristic of reactivity. A waste which exhibits any of the following properties is a RCRA reactive hazardous waste:

- Is normally unstable and readily undergoes violent change without detonating,
- Reacts violently with water,
- Generates toxic gases when mixed with water,
- Are cyanide or sulfur bearing wastes which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases,
- Are capable of detonation or explosion if heated or placed under confinement,
- Are readily capable of detonation, explosive decomposition, or reaction at standard temperature and pressure,
- Are forbidden explosives, Class A explosives, or Class B explosives (as classified by DOT in Title 49 CFR).

Examples of reactive wastes are: out-dated oxidixing materials (such as benzoyl peroxide), picric acid, sodium metal, and cyanide compounds or solutions.

Toxicity

NOTE: EPA and DTSC have developed two similar but different/distinct criteria for toxicity characteristics. The RCRA toxicity characteristic developed by EPA is primarily focused on a the ability of certain compounds in a waste to leak out of a landfill and get into groundwater (and ultimately drinking water) posing a chronic (long-term) health hazard. The non-RCRA toxicity criteria developed by DTSC is far broader and used different tests. The RCRA Toxicity Characteristic is discussed directly below; the non-RCRA (California) toxicity criteria is discussed further in this Chapter in the 'Non-RCRA Hazardous Waste' section.

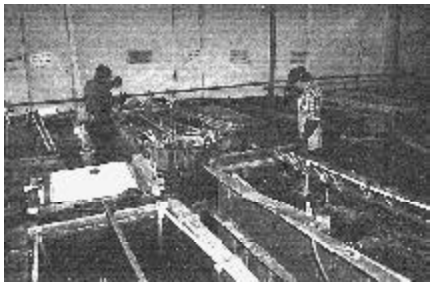
Toxicity testing can be quite complicated. This Guide will discuss this procedure in detail because it is so often used (and so often confused!)

Toxicity Characteristic Leaching Procedure

The Toxicity Characteristic Leaching Procedure (TCLP) is an EPA procedure performed on wastes intended for landfill disposal. The specific toxicity criteria and is described in Title 22, CCR, Section 66261.24 and in Appendix I of Title 22, CCR, Chapter 18. The TCLP determines if any of 39 specifically listed heavy metals (such as chromium, lead and silver) and organics (such as benzene, certain toxic solvents and pesticides) are present in the waste in over certain concentrations. A laboratory performing the TCLP places a sample of the waste in a testing container and mixes it with a mildly acidic solution for many hours. The liquid is separated and analyzed to determine is any of the listed compounds are in the solution in concentrations over the regulatory limit. If the sampled waste is a large solid, it is ground into a powder first; if it is already in liquid form, the waste solution is just analyzed without mixing with the mild acid.

If the analyzed liquid contains any of the listed compounds in concentrations over the regulatory limits for that specific compound (listed Title 22, CCR, Section 66261.24), the waste is a RCRA toxic waste.

The TCLP is somewhat similar to the California test (the Waste Extraction Test or WET) performed to determine similar concentration values (the TTLC and STLC [and WET] are explained in the following section. Wastes which are tested using the TCLP and found NOT to be a RCRA toxic waste must still be tested or evaluated against the California toxicity criteria for hazardous wastes.



Examples of RCRA toxic wastes are plating and metal finishing wastes, soils contaminated with plating wastes or pesticides, and process waste solutions containing heavy metals or chlorinated solvents.

Non-RCRA Hazardous Wastes

Because of the high value we Californians place on our diverse and unique environment, DTSC regulates a wider range of wastes as hazardous than does EPA under RCRA. These California-regulated hazardous wastes are called non-RCRA hazardous wastes.

Because RCRA hazardous wastes are regulated as hazardous in all states, if a waste is classified as a RCRA waste, you generally do not have to further classify it according to California-specific (non-RCRA) criteria - the primary exception being classification as a California extremely hazardous waste. As described below, RCRA hazardous wastes may also be classified as an extremely hazardous waste. However, if the waste is not listed on the RCRA lists (the F, K, P or U lists), and the waste does not exhibit any of the four RCRA hazard characteristics (ignitable, corrosive [liquids], reactive, TCLP toxic), you must then determine if the waste is a non-RCRA hazardous waste.

Non-RCRA hazardous wastes are generally described in Title 22, CCR, Section 66261.101. Non-RCRA hazardous wastes can fall within several categories:

- Listed on the lists of chemical and common names of hazardous wastes in Appendices X and XII of Title 22, CCR, Chapter 11 (sometimes called 'presumptive wastes);
- Non-RCRA corrosive;
- Non-RCRA toxic;
- Extremely hazardous waste; and
- Special wastes

Again, there are also a number of other wastes (fluorescent tubes, batteries, drained used oil filters, etc.) which are also regulated, though not as a hazardous waste. These wastes and their special management requirements are discussed later in this Chapter and in Chapter 5.

Listed (Presumptive Wastes)

Lists of nearly 800 chemical names and about 80 common names of hazardous wastes are contained in Appendices X and XII of Title 22, CCR, Chapter 11.

As these two lists are very comprehensive, there may be many wastes listed on these lists which are, in fact, RCRA hazardous wastes (depending upon the specific composition and generating process). If so, that waste would be a RCRA hazardous waste as described in the previous section.

If your particular waste material or any of its constituents are listed in either one of these two lists and is not a RCRA hazardous waste, that waste is presumed to be hazardous (non-RCRA hazardous waste) unless and until you determine that it does not exhibit any hazardous characteristics.

If a waste is not listed in Title 22, it should still be presumed to be hazardous. This is true unless it is determined otherwise by laboratory testing or applying knowledge of the hazardous characteristics of the waste in light of the materials or processes used, and the characteristics set forth in Title 22 CCR and described in this Guide. In addition, if a waste exhibits any hazardous characteristics it may be considered a hazardous waste, even if it is not listed in the regulations.

For this reason, many generators simply determine if their wastes are

RCRA hazardous wastes or exhibit non-RCRA hazard characteristics by laboratory testing or using their knowledge of the materials, its hazard(s) and the waste generating process without even looking at these two California lists.

Non-RCRA Corrosivity

The way the regulation is written, the criteria for corrosive wastes in Title 22, CCR, Section 66261.22 integrate the RCRA and non-RCRA criteria for corrosivitiy - even though there are differences. As noted above in describing RCRA corrosivity, a waste which exhibits any of the following properties is a non-RCRA corrosive hazardous waste:

- Solid (non-liquid) wastes which, when mixed with an equivalent weight of water has a pH less than or equal to 2, or greater than or equal to 12.5 (pH $\leq$2 or pH $\geq$12.5).
- Solid (non-liquid) wastes which, when mixed with an equivalent weight of water, corrodes steel at a rate greater than 0.25 inches per year (using a certain test).

Examples of non-RCRA corrosive wastes are: caustic soda pellets, and acidic boiler cleaning sludge and solids.

Non-RCRA Toxicity

DTSC's criteria for whether a waste is toxic is far broader and more inclusive than EPA's under RCRA. RCRA's toxicity characteristic is concerned with the long-term (chronic) toxicity of waste constituents by human ingestion (through drinking groundwater); California considers a toxic hazardous waste to be a waste that has a potential, when eaten, inhaled, or touched, to harm humans, wildlife or the environment.

Basically, toxicity tests look for one or all of the following:

- Whether a concentration of the waste exhibits short-term (acute) lethal toxic effects if eaten, inhaled, touched or absorbed on the skin, or is lethal to fish. Historically, laboratory animals have been used in lieu of testing the substance directly on humans, with the results then extrapolated to human exposures and published in various reference books.
- Whether the waste is carcinogenic;
- Whether the waste can build up in an organism's body until it reaches a concentration that causes a disease or a disorder (Bioaccumulation Testing); and/or
- Whether the waste can leach or leak out of a landfill and pose a chronic toxicity hazard to drinking water (Waste Extraction Test)

Acute Oral, Dermal, Inhalation or Aquatic Toxicity

Wastes that exhibit oral, dermal, aquatic or inhalation toxicity according to the criteria found in Title 22, CCR Section 66261.24 are non-RCRA toxic wastes.

The terms Lethal Dose (LD) and Lethal Concentration (LC) refer to the concentrations of a substance that kills a proportion of a group of laboratory animals. Toxicologists generally refer to the concentrations that kill one-half (50%) of the test subjects; these concentrations are called

TTLC/STLC Testing and Determination

Here are the steps involved (your laboratory will be performing these tests - but it is up to you, the waste generator, to actually classify your waste):

1. *Perform a test to determine the TTLC value of the waste. The test is sometimes called the "TTLC", "Total Metals" or "Nitric Acid Test". Note that for grinding wastes from metal solids, a Sieve Test may be required first. (The Sieve Test determines the particle size of uncontaminated metal powders and dusts.)*
2. *If the tested concentration is equal to or greater than (≥) the accepted TTLC value for that substance, the waste is considered hazardous waste. If the tested concentration is less than (<) the TTLC value, but is greater than (>) the STLC value, then proceed to Step 3. If the tested concentration is less than both the TTLC and the STLC values, the waste is considered nonhazardous and no further analysis is necessary.*

Step 2 Summary:
If it is not a RCRA waste and the tested concentratons is
≥ TTLC, then it's hazardous.
< TTLC, but > STLC, then proceed to step 3.
< TTLC and STLC, then it's nonhazardous.

3. *Multiply the accepted STLC value by a factor of 10. If the tested concentration (from the TTLC test) is less than 10 times the STLC, the waste is assumed to be nonhazardous.*
4. *If the tested concentration is more than 10 times the STLC, the waste is likely to be hazardous. At this point, you can agree to handle the waste as hazardous or you can subject the waste to further testing.*
5. *If you opt for more testing, the test to perform is the Waste Extraction Test (WET). The test is sometimes also called the "STLC", "Soluble Metals" or "Citric Acid Test'.*
6. *If the tested concentration for the WET test is equal to or greater than the accepted STLC value for that substance, it is considered hazardous waste. If the observed value is less than the accepted STLC value, it is considered nonhazardous.*

Acute Lethal Dose 50 (stated as LD-50) and Lethal Concentration 50 (LC-50). A low LD-50 or LC-50 value means that less of the substance is needed to kill test subjects, and thus the more toxic it is. A higher LD-50 or LC-50 means that more of a substance is needed to kill test subjects, and thus the less toxic it is. So a substance with an LD-50 of 8 mg/kg (miligrams of substance per kilogram of test subject body weight) would be more toxic than a substance with an LD-50 of 22 mg/kg.

The four types of LD-50 and LC-50 are oral, dermal, inhalation, and aquatic bioassay. Toxicity data are found in several reference books (e.g.: The Merck Index and the NIOSH Registry of Toxic Effects of Chemical Substances and Hazardous Chemical Data Book). Most waste generators can either look up the toxicity of their waste by using the MSDS for the pre-waste material, using one of these reference books (using lab analyses or the MSDSs to determine the individual composition of the waste if it is a mixture), or calling an outside expert (a reputable hazardous waste facility's technical staff or a consultant).

Many materials which are hazardous in large part because they are toxic to fish (such as saturated oily rags or absorbent, and oil/water separator liquids) must be tested by a state-certified laboratory to determine its exact level of aquatic toxicity. This test is called the aquatic bioassay.

Wastes with very low LD-50s (highly toxic) fall into a special class of hazardous wastes called Extremely Hazardous Wastes. Arsenic, cyanide, and beryllium are all examples of extremely hazardous wastes.

Carcinogenicity

Wastes containing any of the 16 identified OSHA-regulated carcinogens (Title 22, CCR Section 66261.24) at over 0.001% concentration are hazardous wastes. In many cases, the material's MSDS can be used to determine whether the material as a waste would fall within this criteria.

Examples are vinyl chloride and acrylonitrile.

Bioaccumulation Testing and the Waste Extraction Test

Wastes that contain toxic substances in excess of specified concentrations which accumulate in the body or the environment are considered non-RCRA hazardous wastes. As with RCRA toxic wastes (and the TCLP test) wastes that can leach or leak out of a landfill and pose a chronic toxicity hazard to drinking water are also toxic wastes.

Many of these substances are heavy metals, solvents and pesticides - just like those regulated by EPA under the RCRA toxicity characteristic. Although many of the non-RCRA toxic compounds are the same as under RCRA, and many of the concentration limits are the same, and a portion of the California lab tests to determine these levels is generally similar to the RCRA-required TCLP, the California criteria and tests must be considered separate from the RCRA toxicity criteria.

DTSC may consider modifying these criteria in the future to make them more in line with RCRA. However, the California criteria will still be different and more inclusive/restrictive than RCRA.

Two different concentration limits are specified in the regulations (Title 22, CCR, Section 66261.24):

- **Total Threshold Limit Concentration (TTLC)**. The TTLC is the maximum concentration allowed for a waste in solid or powdered form to be considered possibly non-hazardous. If the concentration of a waste is greater than the allowed TTLC value for that waste, the waste is toxic (and is thus hazardous waste). TTLC values are often much higher than STLC values.
- **Soluble Threshold Limit Concentration (STLC)**. The STLC is the maximum concentration allowed for a waste in liquid form to be considered possibly non-hazardous. If the concentration of a waste is greater than the allowed STLC value for that waste, the waste is toxic (and is thus hazardous waste). STLC values are often much lower than TTLC values.

As detailed in the sidebar, the total concentrations of regulated compounds in a waste sample are determined by the laboratory. If the concentration of a substance is found to lie between the accepted TTLC and STLC values for that substance, further analysis may be required. This next analysis is the Waste Extraction Test (WET). The WET is very similar to the Toxicity Characteristic Leaching Procedure (TCLP) described in the previous section, but used a different extraction solution, along with other differences.

Extremely (and Acutely) Hazardous Wastes

Extremely and acutely hazardous wastes are those that are much more hazardous than other hazardous wastes because of their toxicity or reactivity with water. A waste is extremely or acutely hazardous if is:

- A P-listed RCRA hazardous waste (and is regulated as an acutely hazardous waste);
- Designated with an asterisk (*) on the list of chemical names of presumptive hazardous wastes (Title 22, CCR, Section 66261 Appendix X);
- Contains any of the 16 identified OSHA-regulated carcinogens (Title 22, CCR Section 66261.24) at over 0.1% concentration;
- Water reactive;
- Exhibits a high degree of acute oral, dermal or inhalation toxicity (according to criteria listed in Title 22, CCR Section 66261.110 and 66261,113); or
- Exceed the TTLC for extremely hazardous wastes listed in Title 22, CCR Section 66261.113.

Generators of extremely or acutely hazardous wastes have additional management requirements and restrictions for these wastes, including:

- More restrictive accumulation times;
- Prohibition against treating these wastes under the Tiered Permit program and;
- More restrictive empty container management requirements.

Special Wastes

DTSC regulates certain wastes as 'Special Wastes', with less stringent management and disposal requirements. These wastes are listed in Title 22, CCR, Section 66261.120 and include non-liquid, low toxicity, low hazard wastes such as cement kiln dust, sandblasting sand, and dewatered sludge from treatment of industrial process water. These materials have to be managed as hazardous waste unless the criteria set forth in Title 22, CCR, Section 66261.122 are met. If so, the waste can be disposed of at a landfill facility which is not operated under hazardous waste regulations and which meets certain criteria in Title 22, CCR, Section 66261.126.

In order to manage a hazardous waste as a special waste, the generator has to obtain prior written approval from Cal-EPA. The application must have all of the information specified in Title 22, CCR Section 66261.124 including:

1. name and address of the applicant
2. address where the waste is generated
3. description of the waste source and the rate of generation
4. test analysis data that establish that the waste meets the specified chemical, physical, or bioassay criteria.

Other Hazardous, Conditionally Non-Hazardous Wastes, and 'Universal Waste'

Some common industrial wastes have special regulations or DTSC interpretations that require them to be stored and disposed differently than other hazardous and nonhazardous wastes. Many generators may not immediately recognize them as potentially hazardous. Examples are spent aerosol containers, empty containers, used filters (oil, solvent and fuel), lead acid auto batteries, used shop rags, fluorescent light tubes, and old light ballasts. DTSC has fact sheets available containing information and guidance for managing many of these wastes.

- Universal Wastes (Title 22, CCR, Section 66273): New DTSC regulations finalized in 2001 implement federal RCRA requirements for a broad class of low hazard regulated wastes called 'universal wastes'. Universal wastes typically contain small amounts of toxic heavy metals (such as mercury, lead, silver and cadmium), reactive materials (such as sodium metal or lithium), or corrosive materials. Computer and television screen typically contain between two and eight pounds of lead. While posing very little individual hazard to the user, these wastes collectively pose a long term risk to groundwater when disposed at municipal landfills. Universal wastes include:
  - *Spent batteries*, including common consumer type and rechargeable batteries such as alkaline, nickel cadmium (NiCd), lithium hydroxide, lithium ion, and silver and mercury-containing (photo and hearing aid) batteries. Also regulated as universal waste batteries are small sealed lead-acid batteries such as those used in burglar alarms, emergency lights and small computer uninterruptable power supplies. Spent vehicle-type lead-acid batteries are regulated in a different manner (see below) and are not considered universal wastes.
  - *Used lamps*, including fluorescent tubes, high intensity discharge,

neon, mercury vapor, high pressure sodium, and metal halide lamps. Some fluorescent lamp manufacturers market 'green' end or 'low mercury' lamps. These should still be managed as a universal waste unless you have specific alternate guidance from DTSC.

- *Cathode ray tubes (CRTs)*, including computer monitors, television picture tubes and other electronic devices containing a picture tube.
- *Mercury-containing thermostats.*

Businesses who generate universal wastes are called "universal waste handlers". Requirements for universal waste handlers are relatively simple and are discussed in Chapter 5 of this Guide.

- Aerosol Containers (Title 22, CCR, Section 66261.7): Empty aerosol containers are not regulated as hazardous wastes unless they contained a material that is a listed RCRA hazardous waste (e.g: pesticides or chromium or lead containing spray paints) or as an extremely hazardous waste. Aerosol containers that are completely empty may be discarded as municipal trash. The term "empty" means the propellant has been discharged to the maximum extent feasible under normal use. Partially full aerosol containers that contained a hazardous material must be disposed as hazardous waste.

- Empty Containers (Title 22, CCR, Section 66261.7): A container is "empty" only if the contents are no longer pourable or if the contents have been scraped out as much as reasonably possible. If a container that contained a hazardous substance is not empty, the container must be disposed as a hazardous waste. If the container is empty, the handling varies with the volume of the container.

- Five Gallons or Less: Empty containers, or inner liners removed from containers, of five gallons or less that once contained a hazardous substance, are not regulated if all the contents have been poured out, or scraped out. Empty containers of five gallons or less may be discarded to the municipal trash.
- Greater Than Five Gallons: Empty containers, or inner liners removed from containers, of greater than five gallons in size that once contained a hazardous substance, must be sent out on a bill of lading to a drum recycler or reconditioner for scrap value or sent back to the manufacturer for refilling within one year of being emptied. The date emptied must be marked on the container. Containers greater than 5 gallons in size cannot be put into the municipal trash or municipal landfill.

Regulations on empty hazardous materials bags are due to be issued by DTSC in late 2001.

- Used Oil (Title 22, CCR, Section 66279.1): Used oil (including lubricating, hydraulic and motor oils) are regulated as a Non-RCRA hazardous (toxic) waste. However, used oil recyclers are allowed to pick-up used oil from generators using the modified manifest procedure (see Chapter 6). However, if your used oil is considered flammable, or is mixed with or is contaminated with solvents or

cleaners, it may be classified as a RCRA hazardous waste and subject your business to more stringent compliance requirements. DTSC's Used Oil Fact and Oil Filter Sheet contains additional information and guidance and is available on DTSC's web site at
http://www.dtsc.ca.gov/library
or from the HTM Office at
http://www.lacity.org/EAD/eba/index.htm).

- Under 2000 California legislation, non-PCB dielectric fluid filtered and reused by the generator is not regulated as a hazardous waste. Non-PCB dielectric fluid sent off as a waste can be handled as a non-hazardous 'RCRA Used Oil' (labeled simply as 'Used Oil' and properly recycled).

- Used Oil Filters (Title 22, CCR, Section 66266.130): Used motor oil filters are considered non-RCRA hazardous (toxic) waste. Provisions have been made in the regulations to handle these filters as nonhazardous, as long as the filters are drained of any used oil and sent out for scrap metal recovery. Drained oil filters must be managed in a closed rainproof container and the container is labeled 'Drained Used Oil Filters' and marked with the accumulation start date. Used vehicle fuel filters can be handled in the same way – provided they are completely drained. DTSC's Used Oil Fact and Oil Filter Sheet contains additional information.

- Other Filters: Used filters, such as solvent bath filters, radiator coolant recycler filters, and plating bath filters, are considered hazardous waste, unless laboratory testing proves them to be non-hazardous. The filters cannot be commingled, stored, or disposed with used oil filters.

- Lead Acid Batteries (Title 22, CCR, Section 66266.80 and 66266.81): These batteries contain acid, lead, and other heavy metals. Lead-acid batteries do not have to be handled as hazardous waste if the following conditions are met:

- The batteries are intact (no cracked batteries or missing caps);
- The batteries are recycled;
- No lead plates, electrolytes or acids are removed from the batteries at the generator's location;
- Batteries are stored to prevent the release of acid or lead to the environment - such as on secondary containment pallets;
- One ton or more cannot be stored more than 180 days;
- Less than one ton cannot be stored any longer than one year;
- The batteries are sent to a facility that recycles, uses, reuses or reclaims them; and
- Receipts (manifests or bills of lading) must be kept for three years.

DTSC's Lead-Acid Battery Fact Sheet contains additional information.

- Used Shop Rags: Rags and towels can be used to clean up small spills, but do not use them as your routine method for hazardous waste disposal. Rags and towels that are laundered for reuse or just contain oil/grease and are not saturated are not regulated unless they are intentionally used as "the" method of hazardous waste disposal.

- Damaged/Degraded and/or Unlabeled/Mislabeled Containers (Title 22, CCR, Section 66261.2(f)): Hazardous materials contained in damaged or degraded containers are regulated as a hazardous waste within 4 days of discovery unless repackaged into a good container. Hazardous materials in containers with no label or unreadable labels are regulated as a hazardous waste within 10 days of discovery unless relabeled properly.

- Fluorescent Light Ballasts Manufactured Prior to 1979 (Title 22, CCR, Sections 67426.1 through 67429.1): Waste fluorescent light ballasts may contain PCBs (Polychlorinated biphenyls). PCBs are regulated as a hazardous waste. The majority of all light ballasts manufactured before 1979 contain PCBs. After January 1, 1979, ballasts could not be manufactured with PCBs, and must be labeled "No PCBs". A "No PCBs" ballast can be identified by one or more of the following methods:

- "No PCBs" printed on a label,
- Date code stamp indicating manufacture after 1979 appears on the ballast, or
- The ballast manufacturer identifies the ballast by model number.

All ballasts which cannot be readily identified as not containing PCBs must be managed as if the ballast contained PCBs. Disposal of PCBs must be in accordance with hazardous waste regulations.

- Silver-Containing Photographic Wastes (HSC Section 25143.13): Effective January 1, 1999, wastes that are hazardous solely due to the presence of silver are regulated only to the extent they are federally regulated under RCRA. In many cases, as long as certain conditions are met, these 'silver-only' wastes are excluded from hazardous waste regulation. The vast majority of these silver-only wastes are photographic and x-ray processing wastes (solutions, filters, films, flakes, and sludges) from photo processing, printing and dental/ medical facilities. These wastes are excluded from hazardous waste regulation provided they are reclaimed or recycled (either on-site or by a silver reclamation facility off-site), and all treated effluent discharged to the sewer meets sewer/wastewater discharge requirements. The on-site generator treatment of silver wastes no longer requires a 'tiered permit', although an industrial wastewater permit will be necessary (as discussed in Chapter 4).

- Latex Paint (HSC Section 25217 et seq.) can be managed as a non-hazardous waste provided that the paint is properly recycled and records of recycling are kept. The HTM office can provide additional information on latex paint recyclers.

- Aqueous or Citrus-based Cleaners (Parts Washer Solutions) are

becoming much more popular because they are far less hazardous than the petroleum solvents they replaced and many meet the SCAQMD's strict solvent cleaning rules. However, most spent/dirty parts washer solutions are still regulated as hazardous waste (due, in part, to contaminants in the dirty solutions). These solutions generally can not be disposed down the drain or into the sewer.

Classification

Hazardous Waste
Waste determinations can often be complicated, challenging and sometimes time consuming, particularly if your operations are complex, or used a large number of different raw materials or manufactures chemical products. However, most smaller and mid-sized facilities generate predictable waste of the same type and quantity as other businesses in the same field or trade. A general list of common hazardous waste types generated by various types of generators is presented in Table 1. This information is not all-inclusive, however.

The following is a step-by-step approach to determine whether your business generates hazardous waste and the category of generator you may be. If your raw materials or processes change, you may need to repeat these steps.

STEP ONE:
Chemical Identification

Conduct a facility-wide inventory of all materials. It is suggested that this inventory be done by actually inspecting the various work and storage areas, in addition to relying on purchasing records or existing documentation of hazardous wastes. You need to identify each chemical used and produced, including by-products and wastes.

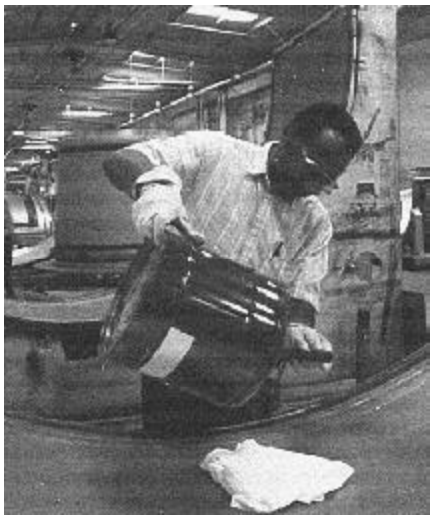
You must fully understand the fate of all ingredients and raw materials in any process and the chemical composition of all potentially waste-containing media and streams (air, water, solid, filterable, solubles, etc.) associated with the operation.

Your business is likely to produce hazardous wastes if you use products that are accompanied by a Material Safety Data Sheet (MSDS) or a label indicating that the product is hazardous. Table 1 at the end of this Chapter lists typical hazardous waste streams produced by common businesses.

Although infectious materials and radioactive materials are hazardous, and are very strictly regulated by other local and state agencies, they are not classified as hazardous wastes (unless they are mixed with a hazardous waste).

STEP TWO:
Cross Reference With MSDSs

Check your business' MSDS file for substances listed during the inventory to verify the hazardous properties and chemical composition (ingredients) of the chemical products that your company is using.



Chemical manufacturers and suppliers are required by federal OSHA and Cal/OSHA to supply you with a Material Safety Data Sheet (MSDS) for each hazardous chemical you purchase. If you do not have a current (recommended no older than 3 - 5 years old) MSDS for each chemical you use, contact your suppliers or the manufacturer and request it.

This step will provide helpful information for identifying whether wastes being generated are hazardous. A waste stream resulting from the processing or use of a hazardous material should be presumed to be a hazardous waste.

You are required to have MSDSs for all onsite hazardous chemicals. If a raw material or other chemical used in your business requires an MSDS, you need to know the fate of these hazardous substances.

NOTE: Handling chemicals requiring MSDSs in your business subjects them to other regulatory programs such as: Cal/OSHA Hazard Communication Standard and Hazardous Materials Release Response (Business Emergency) Plans and Inventory.

Refer to Chapters 4 and 9 for more information on emergency plans and inventory requirements. Refer to Chapter 8 on employee safety training for more information on MSDS forms.

STEP THREE:
Waste Stream Identification

Identify each of your wastes. Once you have examined the chemicals used in your operations, it should be easier to identify your business' wastes and how they are being managed. The importance of this step is to determine whether there are additional waste streams that should also be reviewed for compliance with the hazardous waste laws or other applicable requirements. Examples include used oil filters, empty containers, spent fluorescent light tubes, old CRTs/computer monitors and other potentially and/or conditionally hazardous wastes previously discussed.

Additionally, if any potentially hazardous wastes are being managed as excluded wastes or excluded materials, you should make sure that all of the specific conditions and requirements for qualifying for the exclusions are being met.

STEP FOUR:
Determination Of Hazardous Waste

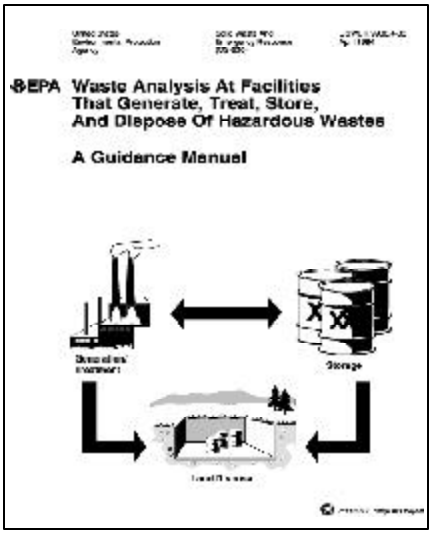
Determine whether your wastes are RCRA or non-RCRA hazardous, extremely hazardous, special, or universal wastes. In some cases, these determinations may require testing by a state certified laboratory. In most other cases, you can use your knowledge of the waste materials, their chemical/physical properties and the waste generating processes or operations to determine if the waste stream is RCRA listed (F, K, P or U-listed) or meets one or more RCRA or non-RCRA hazardous waste characteristics (ignitability, corrosivity, reactivity, or toxicity).

This is an important step in the hazardous waste management process in

that the generator is then able to specifically identify those regulations that pertain to the particular wastes they generate. In particular, you should also keep track of how much RCRA hazardous wastes and non-RCRA hazardous wastes you generate each calendar month (see Step 5 below).

If you are unsure, you should ask someone knowledgeable for assistance or guidance. Most hazardous waste treatment and disposal service firms, testing laboratories, reputable environmental compliance consultants or attorneys can assist you in this procedure. You can also contact:

- The Los Angeles County Fire Department, Health Hazardous Materials Division: (213) 890-4045; or
- CalEPA Department of Toxic Substances Control: ((818) 551-2800 or 714-484-5300); or
- DTSC Waste Evaluation Unit Help Line: (916) 322-7676; or
- RCRA Hotline (for RCRA waste classification questions): (800) 424-9346.



In some cases, these determinations may require laboratory analysis. For a list of State approved testing laboratories, contact:

- Department of Heath Services, Environmental Laboratory Accreditation Program at (510) 540-2800.

You can also write for a useful reference booklet entitled **Handbook for the Analysis and Classification of Wastes**. The address is:

California Environmental Protection Agency,
Department of Toxic Substances Control, Waste Evaluation Unit
P.O. Box 806, Sacramento, CA 95812-0806.

STEP FIVE:
Determining Your Hazardous Waste Generator Category and On-Site Accumulation Time Limit

The regulatory requirements for hazardous waste generators vary depending upon how much RCRA and non-RCRA hazardous waste your business generates per calendar month (Title 22, CCR, Section 66262.34). To determine which category of hazardous waste generator your business falls into and what requirements must be met, measure or "count" the hazardous wastes your business generates in a calendar month. In general, separately add up the weight of all the RCRA and non-RCRA hazardous wastes your business generates during a month. The total weight determines your generator category.

Generators of less than certain amounts of RCRA hazardous wastes have different (less strict) requirements for obtaining EPA Identification Numbers and filing Biennial Reports (discussed in Chapter 4). So in addition to determining how much total hazardous waste you generate in a calendar month, keep track of how much RCRA wastes vs. non-RCRA wastes you generate. 'Wastes' that are excluded from regulation by use or reuse do not count toward either total. Universal wastes, drained used oil filters, empty containers, and spent lead-acid batteries do not count

towards either total. CRTs destined for disposal and used oil, however, do count.

Be aware, however, that the requirements apply on a month-to-month basis. That is, if you are complying with the lesser requirements because you generated under the weight 'limit' as measured during one month, but during another month you generated over the weight limit, you are regulated as the next higher category generator for that higher month…with more stringent compliance requirements!

The categories are divided as follows:

Conditionally Exempt Small Quantity Generators (CESQGs)) are generators of less than or equal to 100 kilograms (about 220 pounds or, depending upon the specific chemicals, between about 17 to 48 gallons) of RCRA and/or non-RCRA hazardous waste or less than one kilogram (just over 2 pounds) of extremely hazardous waste in any calendar month. CESQGs in California are regulated the same as Small Quantity Generators with the following exceptions:

- The hazardous waste must be transported offsite within ninety (90) calendar days once 100 kilograms (kg) of hazardous waste (or 1 kg of extremely hazardous waste) have accumulated;
- The 90 day period does not begin until you have generated 100 kg (or 1 kg of extremely hazardous waste); and
- You may be qualified for an exemption that will allow transport of up to 5 gallons or 50 pounds of hazardous waste to a recycling, treatment or disposal facility without a transport permit. (This exemption does not apply to any extremely hazardous waste produced). For further information, refer to the California HSC Section 25163 (c).

The Universal Waste section in Chapter 5 discussed the special classification (and exemptions) for 'Conditionally Exempt Small Quantity Universal Waste Generator'.

If you generate monthly more than 100 kg (more than 220 lbs or, depending upon the specific chemicals, more than about 17 to 48 gallons), but less than 1,000 kg, (less than 2,200 lbs or, depending upon the specific chemicals, less than approximately 170 to 480 gals.), then dispose within 180 days after you reach that amount.

Small Quantity Generators (SQG) are generators of more than 100 kg but less than 1,000 kg (between 220 and 2,200 pounds or, depending upon the specific chemicals, between about 17 and 480 gallons) of RCRA hazardous wastes per month. SQGs are regulated the same as Large Quantity Generators with the following exceptions:

- Hazardous waste may be stored onsite for up to 180 days after the very first amount of waste has been generated; or
- If the waste must be transported over a distance of 200 miles or more, the generator may store the waste for up to 270 days.
- SQGs have a more flexibile requirements for generator training and contingency plan requirements.

The preceding storage times apply only if the following conditions are met:

- The total quantity of hazardous waste accumulated onsite (at any one time) never exceeds 6,000 kg (13,200 lbs. or, depending upon the

If you generate more than 1,000 kg (more than 2,220 lbs or, depending upon the specific chemicals, more than approximately 170 to 480 gals.) per month, all hazardous waste must be disposed within 90 days.

A one-time 90-day extension to these time limits may be available for non-RCRA wastes in emergency, unforeseen circumstances by contacting the Los Angeles County Fire Department, Health Hazardous Materials Division at (213) 890-4045 before the onsite accumulation time is reached. DTSC may issue a 30-day extension for RCRA wastes.

The Satellite Accumulation "Extension"

If you fall into the Small Quantity Generator or Large Quantity Generator category, you may be able to accumulate certain quantities of hazardous wastes for longer than the 90, 180 or 270 day accumulation time limit.

Satellite accumulation allows hazardous waste to be stored near the process that generated it.

Satellite waste accumulation may not exceed one year from the initial date of accumulation.

specific chemicals, between approximately 1,000 to 2,900 gallons);
- The generator has complied with all of the contingency plan requirements (refer to Chapter 9 of this Guide); and
- The generator does not store extremely hazardous or acutely hazardous waste in an amount greater than 1 kg (2.2 pounds) for more than 90 days.

Note that while the time and volume limits for SQGs apply to all hazardous wastes (RCRA and non-RCRA), you only count the monthly RCRA waste volumes to determine whether your facility is a SQG or LQG.

Large Quantity Generators (LQG) are generators of more than 1,000 kg (2,200 pounds or, depending upon the specific chemicals, over approximately 170 to 480 gallons) of RCRA hazardous wastes per month. Hazardous waste cannot be stored for more than ninety (90) days after the day the waste was first generated.

Satellite accumulation allows storage of small amounts of hazardous waste for up to one year from the initial date the waste was first generated. More than one satellite accumulation site may be used and this rule applies to any business regardless of the quantity of waste generated on the premises as long as the following conditions are met:

- Waste is stored at the initial point of generation and under control of the operator of the process generating the waste;
- A maximum of 55 gallons of hazardous waste or one quart of extremely hazardous waste is accumulated at any one satellite location;
- Containers or drums are properly labeled;
- Within three (3) days after reaching the maximum storage quantity, a new accumulation date (date that limit was reached) must be marked on the container and the waste removed offsite within the specified time limit (SQG or LQG).

Table 1 - Typical Hazardous Waste Streams Produced By Common Businesses

Automotive Paint Shops
- Waste Thinner
- Solvents
- Waste Paint Sludge
- Used Paint Filters

Building Cleaning and Maintenance
- Acids/Bases
- Pesticides
- Waste Paint
- Waste Cleaners
- Solvents
- Used Oil

Chemical Manufacturers
- Acids/Bases
- Cyanide Wastes
- Heavy Metals/Inorganics
- Ignitable Wastes
- Solvents

Cosmetics
- Acids/Bases
- Ignitable Wastes

Construction
- Acids/Bases
- Alkaline Terrazzo Grinding Sludge
- Ignitable Wastes
- Solvents
- Used Oil

Educational/Vocational
- Acids/Bases
- Ignitable Wastes
- Solvents
- Pesticides
- Reactives
- Used Oil
- Heavy Metals/Inorganics
- Vehicle Maintenance Wastes

Equipment Repair
- Acids/Bases
- Ignitable Wastes
- Solvents
- Used Oil
- Waste Aqueous Cleaning Solution

Formulators
- Acids/Bases
- Cyanide Wastes
- Heavy Metals/Inorganics
- Solvents
- Ignitable Wastes
- Pesticides
- Reactives
- Solvents

Funeral Services
- Solvents
- Formaldehyde

Furniture Manufacturing
- Ignitable Wastes
- Solvents
- Waste Thinner
- Waste Paint Sludge
- Used Paint Filters

Health Care Facilities
- Acids/Bases
- Ignitable Wastes
- Reactives
- Solvents
- Toxic/Carcinogenic Wastes

Laboratories
- Acids/Bases
- Heavy Metals/Inorganics
- Ignitable Wastes
- Reactives
- Solvents
- Toxic/Carcinogenic Wastes

Laundries and Dry Cleaners
- Dry Cleaning Residues
- Solvents
- Perchloroethylene Waste
- Waste Filters/Media
- Stoddard Solvent

Machine Shop
- Sludges With Heavy Metals &/or Oils
- Solvents
- Water Soluble Coolant with Oils
- Used Oil

Metal Manufacturing
- Acids/Bases
- Cyanide Wastes
- Heavy Metals/Inorganics
- Ignitable Wastes
- Reactives
- Solvents
- Spent Plating Wastes

Metal Anodizing and Printed Circuit Boards
- Acids/Bases
- Cyanide Wastes
- Heavy Metals/Inorganics
- Reactives
- Spent Plating Wastes
- Silver Fix
- Solvents

Motor Freight Terminals/ Railroad Transportation
- Acids/Bases
- Used Ethylene glycol/Antifreeze
- Heavy Metals/Inorganics
- Ignitable Wastes
- Lead-acid Batteries
- Solvents
- Used Oil

Pesticide Application Services
- Excess Pesticide(s)
- Solvents
- Used Oil
- Pesticides (outdated)
- Waste Containers

Printing/Allied Industries
- Acids/Bases
- Heavy Metals/Inorganics
- Ink Sludge
- Spent Plating Waste
- Solvents
- Silver Fix

Retail Markets
- Silver Fix

Schools
- Vehicle Maintenance Wastes
- Lab Wastes
- Silver Fix

Vehicle Maintenance
- Acids/Bases
- Used Ethylene glycol/Antifreeze
- Heavy Metals/Inorganics
- Ignitable Wastes
- Lead-acid Batteries
- Solvents
- Used Oil
- Used Oil Filters
- Waste Aqueous Cleaning Solution

Wood Preserving
- Preserving Agents
- Solvents

Furniture/Wood Manufacturing and Refinishing
- Solvents
- Paint Wastes
- Used Paint Filters
- Wood Preserving Agents

NOTES

CHAPTER SUMMARY

- *Reduction of toxic pollutants has been increasingly addressed by all levels of government as a priority in environmental management*
- *Exposure to toxic pollutants may occur through three pathways: air, water and soil.*
- *Regulations such as South Coast Air Quality Management District (SCAQMD) Rules 1401 and 1402 have been enacted to specifically reduce air toxic emissions from facilities.*
- *The California and SCAQMD "Air Toxics Hot Spots" program may require some businesses to submit annual toxic air emission inventories and reports to asses public health exposures and risks.*
- *The Industrial Wastewater Discharge Permit, the Stormwater/ Urban Runoff Permit and Proposition 65 all place legal restrictions on the discharge of toxic pollution to waters.*
- *Leakage, via underground storage tanks, has been known to be one of the most severe forms of soil and groundwater pollution.*
- *Federal and California laws and regulations mandate permit, design, operation and upgrade requirements to prevent leakage from underground storage tanks.*

CHAPTER 3

CONTROL AND REDUCTION OF TOXIC POLLUTION

Air, Water, and Ground Toxic Pollutants

Chemicals that may cause cancer, birth defects, genetic damage and other health effects are known as toxic substances. When they enter the environment as a by-product of human activities or natural processes, they are known as toxic pollutants or contaminants.

People may be exposed to these compounds through many pathways: soil, surface water, ground water and air. Dust and dirt containing toxics may be ingested, and toxic pollutants in air and water can be absorbed through the skin.

Some toxics occur naturally, such as metals and radioactive gases. Other toxics are a direct result of human activity.

There is evidence that unintended exposures to many of these chemicals may be creating health problems. Studies have shown that toxic compounds are responsible for illness, ranging from nervous system disorders and sterility to birth defects and cancer.

We, in the United States, have seen a firm tradition of environmental controls established at the federal, state and local levels. Toxic pollution has been reduced under a vast array of environmental laws and regulations. This work continues today as more is learned.

Air Toxic Pollution

Toxic air contaminants are released from a variety of sources, not just from chemical plants and other large manufacturers. Autos and small businesses - dry cleaners, metal plating shops and gas stations - are major sources. Toxic air contaminants are also released when certain consumer products are used in and around the workplace or at home.

Human Health Effects

There is still much to learn about the health consequences of low levels of toxic chemicals in the environment.

Because people are exposed to such a wide variety of toxic substances in both the natural and human-made environment, it is difficult to isolate the health effects of just one compound among general populations. Health studies so far have shown that different toxics have different impacts on the body. Some have immediate effects, while others cause health problems only after cumulative exposure over long periods of time. Symptoms may not appear for ten to forty years.
Many toxic compounds have been implicated in causing sterility, birth defects, cancer and respiratory diseases, especially in the workplace where doses may be high.

What is being done to reduce this threat?

A lot has been done and much more will be done in the future to control toxic air pollutants under federal, state and regional regulations.

Controls on industries ranging from oil refineries to dry cleaners, have cut emissions of toxic hydrocarbons; as have requirements for cleaner paints and consumer products. Controls on metal finishing and plating facilities have reduced emissions of toxic metals. Over the next several years, additional controls on many other sources of toxic air contaminants and emission sources will further reduce our exposures.

Programs and Laws

Programs, regulations and laws have been enacted by the South Coast Air Quality Management District (SCAQMD) to specifically reduce air toxic emissions in the South Coast Air Basin. Although the SCAMD's primary mandate is attaining National Ambient Air Quality Standards for criteria pollutants (mostly smog-forming gases, particulates and vapors) within their jurisdiction, the SCAQMD also has a general responsibility pursuant to the Health and Safety Code, Section 41700, to control emissions of air contaminants and prevent endangerment to public health. As a result, over the last few years the SCAQMD has regulated pollutants other than criteria pollutants such as toxic air contaminants (TACs), greenhouse gases, and stratospheric ozone depleting compounds. The SCAQMD has developed a number of rules to control non-criteria pollutants from both new and existing sources. These rules originated through state directives, CAA requirements, or the SCAQMD rulemaking process.

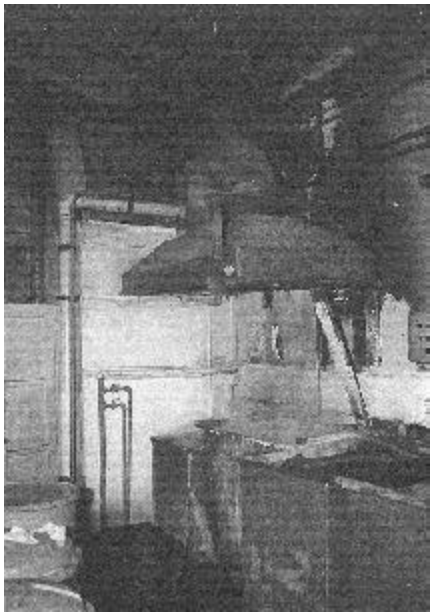
In addition to promulgating non-criteria pollutant rules, the SCAQMD has been evaluating Air Quality Management Plan (AQMP) control measures as well as existing rules to determine whether or not they would affect, either positively or negatively, emissions of non-criteria pollutants. For example, rules in which volatile organic compound (VOC) components of coating materials are replaced by a non-photochemically reactive chlorinated substance would reduce the impacts resulting from ozone (i.e. smog) formation, but could increase emissions of toxic compounds or other substances that may have adverse impacts on human health.

The following sections summarize the existing setting for the two major categories of non-criteria pollutants: compounds that contribute to ozone depletion and global warming, and toxic air contaminants (TACs).

Additional information and compliance assistance with these and other rules and requirements can be obtained by contacting:

South Coast Air Quality Management District
(909) 396-2000

Copies of District rules, permit and recordkeeping forms and other information can be obtained from the District's web site at http://www.aqmd.gov.



Rule 1401, New Source Review of Carcinogenic Air Contaminants
This rule limits cancer risk from new, modified or relocated facilities that emit cancer-causing air toxics. Currently, over 190 air toxics are regulated by SCAQMD. The SCAQMD enforces the risk limits when a facility applies for permits for new construction, modifications or relocation of equipment that emits any of the toxic air contaminates listed in Rule 1401. Permits are granted if the calculated increase in cancer risk from the new, modified or relocated source does not exceed one in a million; or 10 in a million cancer risk, if the proposed controls are the best available and equipment supplied with Toxic-Best Available Control Technology (T-BACT).

Rule 1402, Control Of Toxic Air Contaminants From Existing Sources
The purpose of this rule is to reduce the health risk associated with emissions of toxic air contaminants from existing sources by specifying limits for maximum individual cancer risk and non-cancer acute and chronic hazards/risks applicable to total facility emissions and requiring facilities to implement risk reduction plans to achieve these risk limits (as required by the Toxic Hot Spots Act - see below).

The rule requires the operator of any facility which exceeds a defined health risk threshold to prepare, submit and implement a 'risk reduction audit and plan' which will reduce the risk of air toxic emissions below the significant risk levels as quickly as feasible but by no later than five years from the initial plan submittal date.

The Tanner Toxic Air Contaminant Identification Act, (Assembly Bill 1807)
AB1807, passed in 1983, established requirements for the identification and control of sources of toxics listed by the California Air Resources Board (CARB). Air districts, such as SCAQMD, adopt and enforce these requirements locally. To date, over 190 compounds have been identified as potential cancer-causing air toxics.

Control measures and regulations currently in place include:

- Benzene emissions from gasoline retail service stations' distillation and refueling;
- Hexavalent chromium emissions from cooling towers and from chrome plating and anodizing operations;
- Ethylene oxide emissions from sterilizers used in hospitals, fumigators and other facilities;
- Refrigerant emissions from stationary refrigeration and air conditioning systems;
- Arsenic, cadmium and nickel emissions from non ferrous metal melting operations;
- Dioxin emissions from hospital waste incinerators;
- Asbestos emissions from demolition/renovation activities and surfacing applications containing serpentine applications;
- Lead emission standards;
- Perchloroethylene emissions from dry cleaners;
- Perchloroethylene emissions motion picture film processing;
- Recovery and recycling of refrigerants from motor vehicle air conditioners;
- Halon emissions from fire extinguishing equipment.

Under provisions of the Clean Air Act Amendments of 1990, the EPA has listed 187 pollutants as hazardous air pollutants. (Clean Air Act Title III, Section 112). This section requires the EPA to identify Maximum Achievable Control Technologies (MACT) standards for certain sources emitting these pollutants based on their source categories. Title III essentially replaced the existing federal version of this program, known as the National Emissions Standards for Hazardous Air Pollutants (NESHAP).

Air Toxics "Hot Spots" Information and Assessment Act (AB 2588)

This state law, enacted in 1987, requires all air quality districts in California to collect data on more than 450 air toxics, and in cases of significant health risk, to notify the public of potential risks posed by the specific facility. The law addresses public concerns that emissions from individual facilities may cause high local concentrations of toxics, or 'hot spots'.

"Hot Spots" Program

The program requires thousands of facilities that emit any of over 450 toxic pollutants into the air, to report their emission(s) not only to regulatory agencies but also to the people it affects.

Facilities subject to the program must submit emissions inventory plans and reports to SCAQMD, with updates submitted every four years. SCAQMD uses this information to prioritize facilities to determine which may present a possible health risk and thereby must prepare a health risk assessment. A health risk assessment is a report that estimates possible adverse health effects from routine emissions of toxics.

Based on risk assessment results, SCAQMD determines which facilities may pose a significant health risk, and as a result must inform the neighboring the public. If direct action is not taken to reduce such emissions and inform the public, heavy fines may be levied.

The District is also required to conduct "industry-wide inventories" for selected types of emissions from selected facility categories. A wide range of these inventories have been conducted. Targeted categories include:

- Gasoline Stations
- Auto Body Shops
- Dry Cleaners
- Printing Operations
- Metal Plating and Finishing
- Fiberglass Manufacturing
- Foundries/Metal Operations
- Hospital Sterilizers
- Wood Refinishing
- Asbestos Products
- Ethylene Oxide Sterilizers

Water Toxic Pollution

Industrial Wastewater Discharge Permit (L.A.M.C. 64.30)

The City of Los Angeles, Industrial Waste Management Division, Bureau of Sanitation, Department of Public Works, protect local receiving waters (rivers and oceans) by enforcing the Los Angeles Municipal Code, Section 64.30, and federal requirements through its permitting and inspection of Los Angeles industrial wastewater dischargers.

The purpose of the Industrial Waste Source Control Program is to monitor, regulate and control industrial wastewater discharges to the City's wastewater collection and treatment system. There are limits set for the discharge of certain chemicals and metals in wastewater.

If you have a process that discharges industrial wastewater to the sewer, you may need an Industrial Wastewater Discharge Permit. The permit will contain facility-specific discharge and contaminant limits, and requirements for periodic waste water sampling, monitoring and reporting. For more information on permitting, see Chapter 4 or call:

City of Los Angeles
Bureau of Sanitation
Industrial Waste Permits Office
(213) 485-5874

California General Industrial Stormwater Permit (40 CFR 122.26)(b)(14)

On November 16, 1990, the EPA published final regulations establishing requirements for stormwater discharge permits for various types of activities - including discharges associated with "industrial activities". The regulations require specific categories of industrial facilities to obtain either National Pollutant Discharge Elimination System (NPDES) permits for stormwater runoff/discharge directly into rivers or the ocean or submit an application to be covered under a 'general' state storm water discharge permit in those states that have them (including California).

The applicability of the requirements for stormwater permits is dependent

upon the definition of the term "industrial activity" as defined by the EPA. A simplified version of this definition is :

"The discharge of rainfall runoff and wet weather runoff from any parking lot, gutter, roof, storage area or other on-site surface/subsurface drainage system which is directly related to manufacturing, processing, or raw material storage."

Runoff from employee parking lots (as opposed to fleet vehicle) parking lots is not included in this definition.

The California State Water Resources Control Board has issued a "General Permit for Discharges of Storm Water Associated with Industrial Activities (excluding construction activities). (Water Quality Order No. 97-03-DWQ [NPDES] General Permit No. CAS000001)". A separate statewide general permit has been issued for construction activity. Industrial facilities (including public and government facilities) may elect to be covered under this State General Industrial Stormwater Permit instead of preparing and submitting their own individual permit.

To obtain authorization for continued and future storm water discharges under this State General Permit, each facility must submit a two page Notice of Intent (NOI), facility map and application fees to the State Water Resources Control Board. To meet the compliance requirements of this General Permit, facility operators are required to:

- Eliminate unauthorized non-storm water discharges;
- Develop and implement a site-specific storm water pollution prevention plan (SWPPP);
- Perform periodic monitoring of storm water discharges and authorized non-storm water discharges; and
- Submit annual reports to the Regional Water Board.

Although the State Water Board has authority for issuing and administering the permits, the City of Los Angeles, Stormwater Management Division of the Department of Public Works, Bureau of Sanitation will work with local industries by providing guidance and informational materials related to storm water compliance activities. The Stormwater Management Division conducts its operations under the authority of the City's Stormwater Ordinance (LAMC 64.70) Additionally, the Los Angeles Regional Water Quality Control Board is the regional agency (of the State Water Resources Control Board) which administers storm water permit activities for the State after a facility submits the NOI to the State Water Resources Control Board.

Information requests should be sent to:

City of Los Angeles,
Stormwater Management Division
650 S. Spring St. - Suite 700
Los Angeles, CA 90014
(213) 847-6350; or

State Water Resources Control Board

(916) 657-1110; or

California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street Suite 200
Los Angeles, CA 90013
(213) 576-6600

All necessary California General Industrial (and Construction) Storm Water Discharge Permit information, NOI forms, and other assistance is also available on the State Water Resource Control Board's web site at http://www.swrcb.ca.gov/stormwtr/index.html.

Safe Drinking Water and Toxic Enforcement Act (Prop. 65)

This State law, enacted in 1986, requires any (non-government) business with over 10 employees using any of over 500 chemicals listed by the State as 'known to cause cancer, birth defects or other reproductive harm' to provide 'clear and reasonable' notice to workers and the surrounding/ affected community prior to any exposure. Such warnings are not required if the business can show that the exposure(s) is(are) below a certain 'significant risk' level. The business is also prohibited from discharging any of these chemicals into any source of drinking water or where it is likely to pass into drinking water. Currently, discharging wastewater containing a Prop. 65 chemical into the industrial waste water/sewer system is not expressly prohibited; however, such discharges are strictly regulated by the City of Los Angeles, Bureau of Sanitation.

The law permits a citizen to take the polluting organization to court and receive a percentage of the penalties, if the generator did not take steps to provide information to the public. This can be done through notices in local newspapers and signs inside and around the business property.

For more information about Proposition 65 requirements, please contact:

Cal-EPA
Office of Environmental Health Hazard Assessment (OEHHA)
(916) 445-6900; or at the OEHHA web site at
www.oehha.ca.gov/prop65.htm

Ground/Soil Toxic Pollution

CERCLA (40 CFR, 300 et. seq.)

The Comprehension Environmental Response, Compensation and Liability Act, also known as Superfund, was enacted in 1980 to ensure that a source of funds (originally $1.7 billion, currently $9 billion) is available to clean up abandoned hazardous waste dumps, prioritize site clean-up sites, address releases of hazardous materials, and establish liability standards for responsible parties.

California has a similar law, known as the Hazardous Substance Account Act or (HSAA). The HSAA works in a similar way for California-identified clean-up sites, pays California's share of federal Superfund site cleanups in California, and compensates victims of releases. US EPA administers CERCLA. The Cal-EPA, Department of Toxic Substances Control

administers the HSAA.

Notice Of Potential Liability

It is critical for small businesses to understand their potential liabilities for the clean-up of hazardous substance sites and manage their hazardous wastes and hazardous substances to reduce or avoid potential future liability.

The first indication that a business may be involved in a Superfund site is a request for information from the EPA. However, the EPA may skip this step if it already has sufficient information. If the U.S. or California EPA believes there is information that a business may be liable at a Superfund site, it may issue "general notice letters" or "special notice letters".

There are four categories of parties that may be found liable under Superfund. These include:

- Current and former owners of a Superfund site;
- Current and former operators of Superfund sites;
- Those who generate hazardous substances that are disposed of at a Superfund site (although it was not a Superfund site at the time of disposal); and
- Those who transport hazardous substances to a Superfund site which they have selected.

Liability under Superfund is strict, joint and several. Strict liability means that the potentially liable (or 'responsible') party can be held liable for the clean-up even if the disposal was legal at the time it was disposed, or even if the waste material sent is not the actual waste material responsible for the problem. Joint and several liability means that any liable party can be held legally responsible for the entire clean-up of a Superfund site regardless of the amount or hazard of the waste sent.

Reducing and Controlling Your Liability

For most businesses and hazardous waste generators, reducing and controlling future Superfund liability falls within two categories:

- Using only reputable, well-run and financially sound hazardous waste treatment, storage and disposal management facilities and waste transporters to reduce the likelihood of becoming involved in a future Superfund site; and
- Performing 'environmental due-diligence' on any property purchased or leased to reduce the likelihood of becoming an owner or operator of a past or present Superfund (or other environmentally contaminated) site.

Hazardous Waste Contractor/Vendor Assessments - Reducing Future Superfund Liability

Because of the nature of strict and joint and several liability, hazardous waste generators should carefully screen the hazardous waste treatment, storage, recycling and disposal (TSDR) facilities they use, as well as the prospective hazardous waste transporters. Obviously, this evaluation should be performed before a waste contractor or vendor is used, but even currently used TSDR facilities and transporters should be evaluated if they have not been before.

As stated above you should use only reputable, well-run and financially sound hazardous waste treatment, storage and disposal management facilities and waste transporters. The following are the main elements to be evaluated:

- Federal, state, local permits;
- Pollution and other liability insurance coverage and coverage limits and exclusions;
- Services provided;
- Client list and references (and the number of large company clients);
- Regulatory agency comments and opinions (including a review of agency compliance files);
- Financial strength;
- Location and physical setting (particularly in relation to sensitive public or environmental areas);
- Facility operations;
- Personnel training and operations;
- Operational performance review
- Adherence to compliance with permit requirements and facility procedures;
- Recordkeeping;
- Housekeeping and general facility cleanliness; and
- Facility's own compliance files.

Environmental Liability Site Assessments - Reducing Current and Present Clean-Up Liability

Environmental liability site assessments help avoid large potential risk and liabilities as well as remove costly environmental uncertainties in real estate purchases. Site assessments are often required by lending institutions when purchasing or taking over businesses. There are several types of site assessments - with each varying in the extent (or 'invasiveness') of the investigation.

PHASE I - Commonly known as Property Transfer, Due Diligence, Real Estate, or Preliminary Environmental Assessments, these assessments are a non-invasive (i.e. no physical [soil or groundwater] sampling) review of current and historical aspects of the property use. A review of public and agency records and reports as well as historic aerial photographs is conducted to determine past uses of the subject property and identify any areas/issues of environmental liability concern. Phase I investigations help determine the potential for waste disposal, toxic releases or other types of environmental impairment on the property. Unless the property is extremely valuable and the environmental risks are generally known and clean-up is an option, most assessments end with the completion of the phase I.

PHASE II - Invasive physical sampling and an environmental risk assessment is often recommended as a next step if, for example, the site was previously a service station or used by an industry with a history of using or creating toxic or hazardous constituents. Phase II investigations are also conducted if the phase I assessment indicates potential problem areas, and the prospective purchaser still wants to proceed with the transaction (with additional information). Normally, phase II

investigations are conducted in close coordination with the buyer and seller's legal counsel.

A phase II investigation may involve soil-vapor surveys, soil borings to identify the subsurface conditions, the collection and analysis of soil samples and the installation and sampling of groundwater monitoring wells. Subsurface investigations are designated to confirm the existence of environmental impairment or to prove that impairment does not exist.

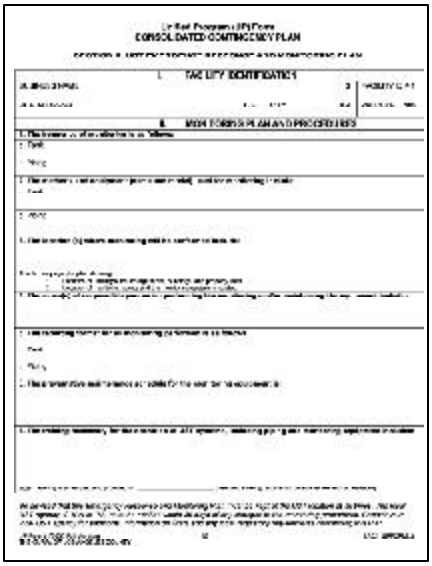
PHASE III - The next step in the site investigation process, a phase III assessment may be conducted to develop reasonable cost estimates and possible techniques for treating or removing the environmental problem.

Preliminary Endangerment Assessment (PEA)
The PEA provides basic information for determining if there has been a release of a hazardous substance that presents a risk to human health or the environment. During the site evaluation process, a completed PEA report provides the information necessary to determine the need for further action at the site, by DTSC (as authorized by Senate Bill 475 of July 1989).

Underground Storage Tanks (USTs)
In 1983, the California Legislature passed two assembly bills that were collectively responsible for the establishment of the State's Underground Tank Program. A State-wide tank inventory was established and owners of all underground tanks were required to register information regarding their tanks with the State Water Quality Control Board. The Underground Tank Regulation Program established a means of inspecting, issuing permits, and providing monitoring for underground tanks containing hazardous substances. It required the City of Los Angeles to provide operational permits to those who use an underground tank, authorized the collection of a State surcharge fee for each underground tank located in the City, and establish a master list of all tanks located in the City. A similar federal underground storage tank regulatory program was established in 1988.

The City of Los Angeles adopted its local underground tank ordinance implementing the State underground tank regulations in 1983. On July 1, 1987, the City of Los Angeles Fire Department instituted the Underground Tank Unit to implement a comprehensive State-mandated program in the City of Los Angeles. Under California's CUPA program, the Fire Department retained authority of the underground tank program.

In response to continuing leaks from USTs and piping systems, major instances of groundwater contamination and substandard installation and testing, the California Legislature passed SB989 in 1999. SB989 imposes several additional requirements and increased standards for tank and leak detection system testing, and tank/tester contractor training and certification. Final regulations implementing SB989 were issued by the State Water Board in May 2001 and were integrated into the existing state UST regulatory program. Some of the additional/enhanced requirements of SB989 become effective immediately, with the remainder over the next 1 to 2 years.


CONSOLIDATED CONTINGENCY PLAN


MONITORING SYSTEM CERTIFICATION

In general, underground storage tank requirements include:

- Required permits for the operation of underground storage tanks;
- Required permits and other requirements for the installation, removal, closure, repair and alteration of underground storage tanks
- Payment of fees for petroleum tanks (to fund the UST Clean-up Fund);
- Required double-containment (e.g. double walled tank and piping system), leak monitoring and detection, overfill protection, cathodic (corrosion) protection. **NOTE**: US EPA required all existing tank systems be upgraded to meet these requirements by 12/22/98, with California requiring compliance stickers/labels on all upgraded and compliant tanks (or on the dispensing pumps). Product suppliers are prohibited from dispensing product into any tank not displaying a compliance sticker.
- Required reporting of unauthorized releases; and
- Demonstration of financial responsibility for tank leaks.

The additional requirements of SB989 include:

- Increased training and triennial recertification of UST installers;
- Annual leak detection/monitoring equipment inspection and certification, with additional licensing and certification of inspectors and contractors;
- Enhanced testing of secondary containment after UST installation, and triennial retesting;
- Significantly enhanced leak detection for certain UST systems within 1,000 feet of a public drinking water well;
- Under-dispenser secondary containment;
- Required annual agency inspections (was triennial);
- Specific training and certification requirements for agency inspectors; and
- Required training and certification of UST facility owners and operators.

For more information on the program and for applications for UST permits contact:

City of Los Angeles Fire Department
Underground Storage Unit
200 N. Main St.
Los Angeles, CA 90012
(213) 237-0600

Information on the California state underground regulatory program, EPA upgrade requirements, and the new SB989 requirements, and the UST Clean-up Fund, can be found on the State Water Board's web site at http://www.swrcb.ca.gov/cwphome/ust/usthmpg.htm.

Underground Storage Tank Clean-up Fund

The State Water Board established the UST Clean-up Fund (the Fund) in 1991. The Fund will reimburse most businesses the major portion of the cost for investigating and cleaning up releases from underground petroleum tanks. There are many eligibility requirements for qualifying for the program and the Fund pays claims according to a set prioritization

scheme - depending upon property use and size of business or government entity filing the claim.
For a list of eligibility requirements for the program, for an application and for further information on the Fund contact:

California Regional Water Quality Control Board, Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013
(213) 576-6600
or on-line at
http://www.swrcb.ca.gov/cwphome/ustcf/fundhome.htm

Why Worry about Leaks and Spills?
Because your tank or its plumbing may leak.

It has been estimated that as many as 25 percent of all underground storage tanks (UST's) may have been or are now leaking. Your tank and it's piping may be leaking right now. If a tank system is past its prime (over 10 years old) especially if it is not protected against corrosion or equipped with leak detection and containment systems, the potential for leakage increases dramatically. Newer tank systems can also leak and spills can happen at any time.

Because It's in Your Best Interest

Leaking UST sites can be very costly to clean-up. Imagine how much money you would loose if your tank could not be used for weeks during lengthy clean-ups or if local residents sued you for property damages. The costs can run into the thousands.

Because It's For the Good of the Environment

Leaks can contaminate our soil and water resources that are vital elements of our ecosystem. Leaks and spills can have serious consequences. Petroleum, for example, can contaminate soil, drinking water supplies, and air.

Emergency Planning and Community Right-to-Know Act
Facilities with ten (10) or more full-time employees may have to submit a Toxic Release Inventory (TRI) Report to the U.S. EPA every July detailing the previous calendar years' routine and non-routine emissions of any of over 600 listed toxic chemicals. Releases to air, water, waste water, and hazardous wastes must be quantified and reported. Requirements for reporting may be found in 40 CFR Part 372. For further information contact:

U.S. EPA
Emergency Planning and Community Right-to-Know Hotline
1-800-535-0202

Or EPA's Emergency Planning and Community Right-to-Know web site:
www.epa.gov/tri

NOTES

CHAPTER SUMMARY

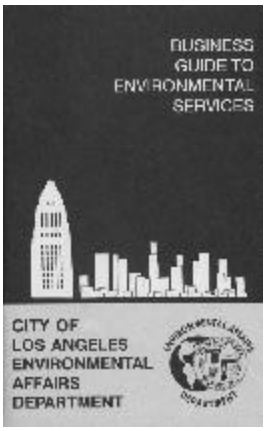
- *If your business generates any amount of hazardous waste, you will need to obtain an EPA ID Number.*
- *Community Right-to-Know programs require businesses that store, handle or process hazardous substances to file a hazardous materials inventory statement and maintain updated inventories of these materials.*
- *Any business that handles hazardous materials in quantities above 55 gallons, 500 pounds, or 200 cubic feet, at any one time, must prepare, submit and implement a Business Emergency Plan (Consolidated Contingency Plan).*
- *Generators of hazardous waste must file a Hazardous Waste Generator Status Form, with additional forms and reports required depending on whether certain hazardous waste-related activities are conducted.*
- *Treatment, storage and/or disposal of hazardous wastes usually requires a permit from DTSC.*
- *Tiered Permitting allows hazardous waste generators to perform on-site treatment of certain wastes using certain treatment methods.*
- *Generators who discharge industrial wastewater to the sewer may need an Industrial Wastewater Discharge Permit.*
- *Generators conducting on-site treatment under Tiered Permitting must submit various Tiered Permitting notification and certification forms.*
- *Generators who discharge stormwater from their facility into any storm drain system may need to be covered under a General Industrial Stormwater Permit.*
- *Certain hazardous waste generators must prepare a Source Reduction Evaluation Review and Plan, and a Hazardous Waste Management Performance Report and a Summary Progress Report.*
- *Certain hazardous waste generators must pay various fees.*

CHAPTER 4

PERMITS, LICENSES, REPORTS, AND FEES

What Permits, Licenses and Reports are Needed?

Permitting and reporting can be a difficult experience. It is necessary to carefully follow the directions on all permitting and reporting documents. If in doubt, contact the appropriate agencies and ask questions. Be persistent and patient during telephone inquiries. Have a pencil and paper in hand when talking on the phone. Obtain the names and titles of all agency representatives to whom you speak. Photocopy and create a file system for all documents you mail to the agencies.



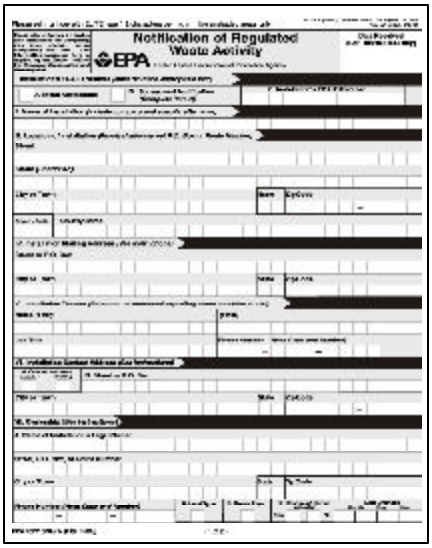
This Chapter summarizes the major hazardous materials and hazardous waste-related permit, license, report and fee requirements for businesses in the City of Los Angeles.

For detailed information on a wide range of required environmental-related permits, as well as sources of technical and financial assistance, see the 1995-1996 City of Los Angeles, Business Guide to Environmental Services. This free publication can be obtained from the City's Environmental Affairs Department by contacting:

City of Los Angeles
Environmental Affairs Department, MS 177
Hazardous and Toxic Materials Office
200 North Spring Street, 19th Floor
Los Angeles, CA 90012

Environmental Hotline: 1 (800) 439-4666 or (213) 978-0891 Or online at http://www.lacity.org/EAD/eba/index.htm.

CalGOLD, a free on-line service of Cal/EPA, provides businesses with industry- city- and county-specific information on permits and other license-related requirements of California state, local and regional agencies. The service includes basic permit requirements, addresses, phone numbers, and links to agency internet pages. CalGOLD can be accessed at
http://www.calgold.ca.gov/
or by calling (916) 322-2497.



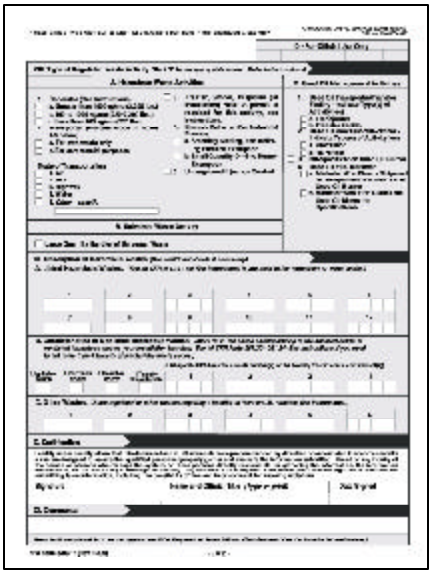
EPA Identification Number (Title 22 CCR 66262.12)

In California, every generator of hazardous waste must apply for an EPA ID number – even most Conditionally Exempt Small Quantity Generators. The EPA ID number is needed to complete the Uniform Hazardous Waste Manifest to ship wastes off-site, is a part of a national data base for hazardous waste tracking and is used to identify your facility in all agency correspondence. The number has a three letter prefix followed by nine numbers.

Although every generator must have an EPA ID number regardless of the amount of hazardous waste generated, there are several different 'types' of EPA ID numbers depending upon the volume of RCRA and non-RCRA wastes are generated per month (RCRA and non-RCRA waste classifications are discussed in Chapter 2). EPA ID numbers are not required for businesses who generate only universal wastes.

There are also EPA ID numbers designated for one-time use for off-site spill cleanups and removals (emergency numbers), and temporary EPA ID numbers for short-term waste generating activities such as asbestos removal at an office building (provisional numbers).

A typical operating facility or business would only need a 'permanent' number, rather than an emergency or provisional ID number. Therefore, a hazardous waste generating facility must have one of the following EPA ID numbers:

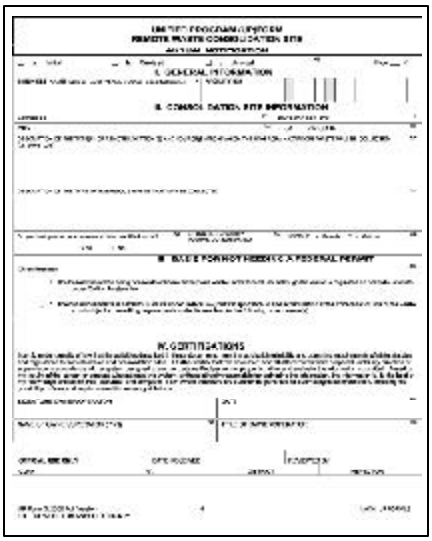


- State (California) EPA ID Number. Issued to hazardous waste generators who generate only non-RCRA hazardous waste or less than 100 kg of RCRA waste and less than 1 kg of RCRA acutely hazardous waste (P-listed wastes) per calendar month. The prefix for state ID numbers is CAL.

- Federal EPA ID Number. Issued to hazardous waste generators who generate 100 kg or more of RCRA waste or 1 kg or more of RCRA acutely hazardous waste (P-listed wastes) Per Calendar Month. There is no 'limit' on the volume of non-RCRA waste generated for a state number. The prefix for federal ID numbers is CAD or CAR.

All EPA ID numbers are business site-specific and there must be only one number for a particular business or company at an address. If you have a business that generates waste at multiple addresses, each address needs a separate EPA ID number. For different businesses operating at a single location (such as an industrial park, or leasing a portion of another company's facility), each different business should obtain and operate under their own EPA ID number.

Generators should make sure they have an appropriate and current EPA ID number, and only one number per generator facility. If a business has multiple waste generating buildings separated by public streets or roadways, separate EPA ID numbers are probably required for each roadway-separated building(s).



If you move or close your business, you should deactivate your old number and have a new number issued for your new location by contacting DTSC or EPA at the phone numbers below.

Remote Site Exception

One exception to EPA ID number requirements are "Remote Waste" locations. A "remote site" means:

- a site operated by the generator where hazardous waste is initially collected;
- at which generator staff, other than security staff, is not routinely located. A site would continue to meet the definition of 'remote' if generator staff visit the location to perform inspection, monitoring or maintenance activities on a periodic scheduled or random basis, but less frequently than daily;
- and which is not contiguous to a staffed site operated by the generator of the hazardous waste; or
- which does not have access to a staffed site without the use of public roads.

Wastes generated at 'remote sites' are typically generated during periodic maintenance or repair operations, and are to be transported back to the generator's main facility (e.g. the consolidation site). Additional requirements for remote site operations are contained in HSC Sections 25121.3 and 25110.10.

Obtaining an EPA ID Number

To obtain a California EPA ID number, the generator should call DTSC at 800-618-6942 (800-61-TOXIC) or 916-324-1781. DTSC will provide a number during the call and will send written confirmation after.

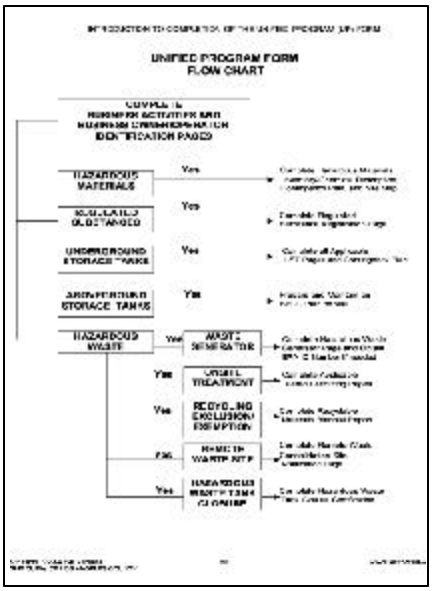
To obtain a federal EPA ID number from U.S. EPA, the generator must fill out EPA Form 8700-12, "Notification of Regulated Waste Activity".

The form and instruction package can be obtained by contacting

US EPA, Region IX
CSC (T-1-2)
75 Hawthorne Street
San Francisco, CA 94105
(415) 495-8895

Hazardous Waste Generator Status Form

As the Participating Agency regulating hazardous waste generators within the City of Los Angeles, the Los Angeles County Fire Department requires all hazardous waste generators to complete and submit the "Hazardous Waste Generator Page" form (part of the Unified Program Forms package discussed in detail below). The Hazardous Waste Generator Page form is used to identify the businesses waste generator status (CESQG, SQG or LQG) and all waste streams generated. The completed form and future



updates should be sent to:
Los Angeles County Fire Department
Health Hazardous Materials Division
5825 Rickenbacker Road
Commerce, CA 90040
(323) 890-4107

Unified Program Facility 'Permit' (Los Angeles Municipal Code, Sections 57.14 and 57.08.03)

Under the Certified Unified Program Agency (CUPA) regulatory consolidation program discussed in Chapter 1, businesses are required to complete and submit to the CUPA certain forms, disclosure reports and plans associated with the business' use of hazardous materials, operation of USTs and above ground petroleum storage tanks, and generation or treatment of hazardous waste. Within the City of Los Angeles, the Los Angeles City Fire Department is the CUPA for all hazardous materials and tank programs, with the Los Angeles County Fire Department responsible as a Participating Agency (PA) for administration and enforcement of hazardous waste programs. Businesses within the unincorporated areas of Los Angeles County may be regulated by different local agencies.

Unified Program Forms Package

As part of an effort to consolidate and make uniform the various Unified Program-related forms, reports and plans, all of the CUPAs and PAs within Los Angeles County (including the City of Los Angeles) have adopted the use of the "Unified Program (UP) Forms". This extensive forms package (including detailed instructions), as well as individual forms, is available on line at http://www.lacofd.org/upforms.htm or from either

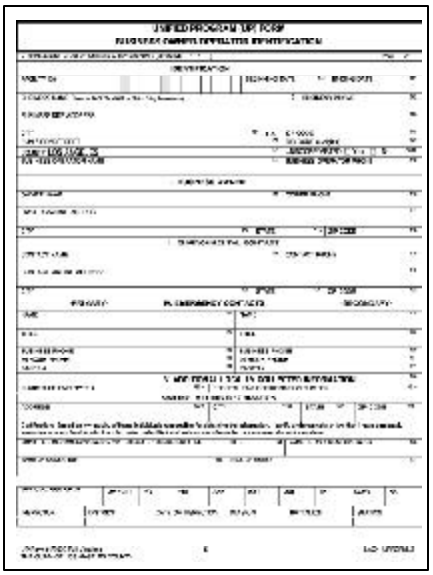
Los Angeles County Fire Department
Health Hazardous Materials Division
5825 Rickenbacker Road
Commerce, CA 90040
(323) 890-4107

or

Los Angeles City Fire Department
200 North Main Street; Room 970
Los Angeles, CA 90012
(213) 485-8080

Businesses should be aware that this Unified Program Forms package was finalized in January 2000 with distribution only recently. While most existing businesses most likely have already submitted similar information on similar forms, you should make sure you are using the new forms during your next annual update. Most completed forms are to sent to the Los Angeles City Fire Department, with the hazardous waste-related forms sent to the Los Angeles County Fire Department at their addresses above.

Business Activities and Business Owner/Operator Identification Forms

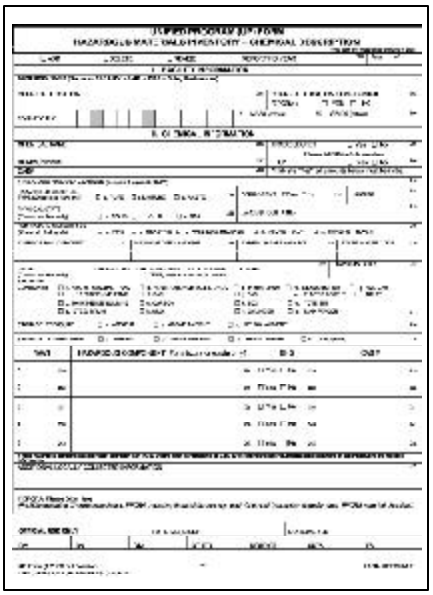


All businesses are required to complete and submit the "Business Activities" form and "Business Owner/Operator Identification" form to the Los Angeles City Fire Department.

Unified Program 'Permit' - Hazardous Materials Release Response Plan and Inventory Program

State law and Division 8 of the Los Angeles Fire Code requires all businesses that store, handle, or process hazardous materials, as specified, to submit a hazardous materials inventory and emergency plan (which serves as the required Division 14 Unified Program Facility Permit with an authorization for the Hazardous Materials Release Response Plan and Inventory Program). This is in accordance with the federal and state Community Right-to-Know Programs and the Los Angeles Fire Code. An up-to-date inventory of hazardous materials (including hazardous wastes) handled or stored at the facility must be submitted to the Los Angeles City Fire Department on the forms provided as part of the consolidated Unified Program Forms package.

The inventory disclosure will help the City of Los Angeles Fire Department and your employees to respond appropriately an incident occur at your facility. The City Fire Department may make the disclosure forms available for public inspection. The specific quantity threshold for a hazardous material or hazardous waste to be placed on this inventory is generally:



- 500 pounds, or 55 gallons, or more of a hazardous material or waste handled at any one time; or
- 200 cu. ft. (at standard temperature and pressure) or more of compressed gas at any one time; or
- Extremely hazardous substances in quantities defined in 40 CFR, Section 355 (the list and thresholds are reprinted in the Unified Program Forms package).

The California HSC requires businesses to annually report hazardous materials inventories to their administering agency (Los Angeles City Fire Department) or to submit a certification of statement that the inventory information has not changed. A business which has filed a hazardous materials inventory statement must file an amendment with the Fire Department either within 30 days of or before:

- The business handles or stores a hazardous substance not previously disclosed to the Fire Department;
- The business no longer handles or stores a hazardous substance previously disclosed to the Fire Department;
- The business handles or stores a significantly increased quantity of a hazardous substance previously disclosed on the form on file with the Fire Department;
- There is a change in the method or place of storage of a hazardous substance from that indicated on file with the Fire Department, such that continued reliance on the information could pose a threat to the environment or the health or safety of individuals; or
- The business changes their emergency contact information.

Hazardous Materials Inventory – Chemical Description Forms and instructions are contained in the previously discussed Unified Program

COVER PAGE

FACILITY IDENTIFICATION

Forms package. Upon submittal, the inventory disclosure will be reviewed. If approved after an onsite verification inspection, the Los Angeles City Fire Department will invoice your business based on the cost-recovery fee formula established by the Los Angeles City Council.

Hazardous Materials Business Emergency Plan (HSC Section 25503.5)

California law requires businesses subject to the inventory requirements discussed above to establish and implement a Business Emergency Plan for emergency responses to a release or threatened release of hazardous materials at the facility.

Facilities handling above the regulated quantities of hazardous materials (which include hazardous wastes) must complete the Business Emergency Plan using forms and instructions contained in the Unified Program Forms package. In general, a Business Emergency Plan must include the following information:

- Administrative information about the business (ownership, street address, 24-hour contact phone numbers, description of business activity, etc.);
- Activities and procedures in place to prevent a hazardous materials emergency from occurring;
- The emergency response and clean-up procedures facility personnel will take in the event of a release or threatened release of hazardous materials;
- Procedures for immediately notifying the Fire Department and State Office of Emergency Services;
- Facility evacuation plans and procedures;
- A description of employee emergency and evacuation training;
- A list of emergency equipment at the facility; and
- Medical assistance procedures.

The plan must be implemented at the business site and a copy submitted to the to the Los Angeles City Fire Department as part of the above described hazardous materials/waste inventory disclosure submittal. Hazardous waste generators have additional Title 22, CCR requirements for a 'Hazardous Waste Contingency Plan' - which requires some additional information not previously included in the Business Emergency Plans required under the hazardous materials inventory disclosure program (see Chapter 9 for details and information on emergency planning). Accordingly, the CUPAs of Los Angeles City and County revised the Business Emergency Plan formats and forms as part of the 2000 Unified Program Forms to consolidate much of this information on one new set of forms. The new consolidated emergency plan format is called the 'Consolidated Contingency Plan' and is included in the Unified Program Forms package. The Consolidated Contingency Plan takes the place of the Business Emergency Plan, and should be completed as part of a business' hazardous material inventory disclosure submittal.

The California HSC requires businesses to review their Business Emergency Plans at least once every three years to determine if a revision is needed and to certify to the CUPA (Los Angeles City Fire Department) that the review was made and that necessary changes were made to the plan. Businesses must keep the Plan updated and submit an amended

Plan to the Fire Department within 30 days of any changes to the Plan, including phone numbers, key personnel and/or emergency procedures changes or revisions.

Upon submittal, the Business Emergency Plan (Consolidated Contingency Plan) will be reviewed. The emergency plan and associated site map will also be subject to an onsite verification inspection.

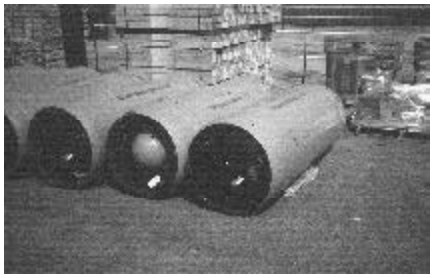
EXCEPTION: Hazardous materials contained in consumer products that are packaged for direct distribution to, and used by, the general public through retail stores are exempt from these Business Plan requirements. However, the Fire Department may determine, in such instances, that the protection of the public's health and safety requires the submission of a Business Plan and/or a site map.

California Accidental Release Prevention Program(CalARP)/USEPA Risk Management Program (RMP)/Cal/OSHA Process Safety Management Program (PSM) (HSC Section 25531 and Title 8, CCR Section 5193)

Beginning in 1986, facilities handling more than 'threshold planning quantities' of EPA-listed extremely hazardous substances (now called 'Regulated Substances') were required to formally register with the Los Angeles City Fire Department and submit a 'Risk Management Prevention Plan' (RMPP) upon request. An RMPP was a detailed evaluation of the potential for accidental releases of highly toxic materials, and of the development and implementation of a program (including training, procedures, preventive maintenance and inspections) to prevent releases from occurring and to minimize the consequences of potential releases.

In 1996, the US EPA developed a similar federal program known as the Risk Management Program (RMP). OSHA and Cal/OSHA also have a similar requirement known as Process Safety Management (PSM) which applies to certain industry groups (mainly chemical and refining) using over OSHA threshold quantities. In 1996, a new California program - California Accidental Release Prevention Program (CalARP) replaced the RMPP, and in 1998 the CalARP regulations were issued by the Governor's Office of Emergency Services.

The Cal/ARP regulations adopt the federal RMP rule, with additional state and local agency coordination requirements and seismic review requirements, specific to California. Facilities which are subject to Cal/ ARP requirements will fall into one of three 'program levels':



- Program 1: Processes with no public receptors (i.e. hazard exposures) within a calculated distance to an endpoint (location) from a worst-case release and with no accidents with specific offsite consequences within the last five years and are eligible for Program 1, which imposes limited hazard assessment requirements and minimal prevention and emergency response requirements. This is the lowest program 'tier'.
- Program 2: Processes not eligible for Program 1 or subject to Program 3 are placed in Program 2, which imposes streamlined prevention program requirements, as well as additional hazard assessment, management, and emergency response requirements.
- Program 3: Processes not eligible for Program 1 and either subject to OSHA's PSM standard under federal or state OSHA programs or

classified in specified SIC codes are placed in Program 3, which imposes OSHA's PSM standard as the prevention program as well as additional hazard assessment, management, and emergency response requirements.

A Cal/ARP program consists of three components: Hazard Assessment; Release Prevention Program; and Emergency Response Program. Cal/ ARP-Risk Management Plans must be submitted to the Los Angeles City Fire Department and EPA. RMPs for existing facilities were due to the agencies by June 21, 1999. Facilities newly covered by this program must submit their completed RMPs within one year of becoming regulated.

For more information on this program, contact:

Los Angeles City Fire Department
Risk Management Prevention Program
200 N. Main Street
Room 990
Los Angeles, CA 90012
(213) 485-8080

Detailed information on the Cal/ARP Program can also be obtained from:

Governor's Office of Emergency Services
Emergency Operations, Planning and Training
Hazardous Materials Unit
P.O. Box 419047
Rancho Cordova, CA 95741-9047
(916) 464-3230

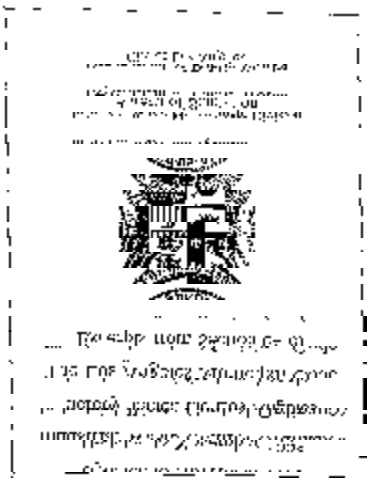
Information can also be obtained from the OES web site at
http://www.oes.ca.gov
(click on 'Hazardous Materials') and EPA's emergency planning web site at
http://www.epa.gov/ceppo.

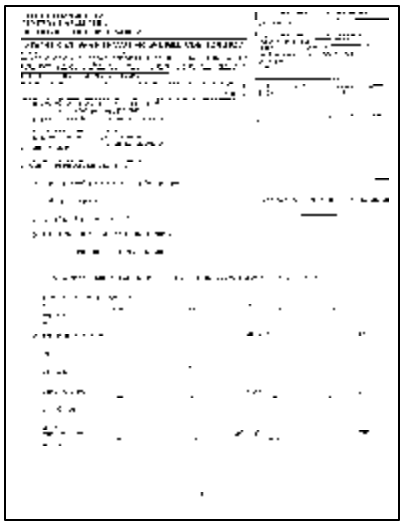
California Accidental Release Prevention Program – Regulated Substance Registration forms are contained in the previously discussed Unified Program Forms package.

Information on Cal/OSHA's Process Safety Management program can be obtained from

Cal/OSHA
Process Safety Management Unit
2100 East Katella Avenue, Suite 225
Anaheim 92806
(714) 939-8952

Underground Storage Tank (UST) Program
Businesses which operate or have on site underground storage tanks to store hazardous materials, including gasoline, or hazardous waste is





required to complete and submit a UST Facility page and UST Tank page for each tank to the CUPA (Los Angeles City Fire Department). For new USTs, facilities must complete and submit a UST Installation - Certificate of Compliance page. These forms and instructions are contained in the Unified Program Forms package. Also, businesses operating USTs must complete and submit Section II of the Consolidated Contingency Plan (the UST Emergency Response and Monitoring Plan) and a plot plan (with location of UST system(s)) to the fire department. The fire department must also be notified within 30 days of any changes to the monitoring procedures listed in the UST Emergency Response and Monitoring Plan as found Section II of the Consolidated Contingency Plan. Additionally, a "Hazardous Waste Tank Closure Certification" form (contained in the UP Forms package) must be completed for all tanks to be removed or closed.

Aboveground Petroleum Storage Tanks

Any business which stores petroleum products (gasoline, oil, etc.) in aboveground storage tanks with a capacity greater than 660 gallons or the total capacity for the facility greater than 1,320 gallons, is required to complete a federally-compliant Spill Prevention Countermeasure Control (SPCC) Plan. The plan is subject to approval by the Regional Water Quality Control Board and is maintained at the tank location. Additional information on the SPCC Program is available on line from US EPA at:
http://www.epa.gov/oilspill/
In 1989, the California Legislature found that in order to protect the state's people and natural resources from aboveground petroleum storage tank spills, an inspection program was necessary. The Aboveground Petroleum Storage Act became effective January 1, 1990. In general, the Act requires owners or operators of aboveground petroleum storage tanks to file a storage statement, pay a fee by July 1, 1990, and implement measures to prevent spills. Additional information and requirements can be obtained from the State Water Resources Control Board at:
http://www.swrcb.ca.gov/cwphome/agt/index.html

Industrial Wastewater Discharge Permit (L.A.M.C. 64.30)

The City of Los Angeles, Department of Public Works, Bureau of Sanitation enforces the Federal Clean Water Act through its permitting and inspection of Los Angeles industrial wastewater dischargers. The purpose of this regulatory program, known as the Industrial Waste Source Control Program, is to monitor, regulate and control industrial wastewater discharges to the City's wastewater collection and treatment system. There are limits set for the discharge of certain chemicals and metals in wastewater.

If you have a process that discharges industrial wastewater to the sewer, you may need an Industrial Wastewater Discharge Permit. The permit will contain facility-specific discharge and contaminant limits, and requirements for periodic waste water sampling, monitoring and reporting.

To obtain an Industrial Wastewater Discharge Permit:

1. Submit an Industrial Waste Water Permit Application;
2. Pay an application fee (to be submitted with the application); and

3. Submit a Sewer Allocation Worksheet (if a new building) and an application fee.

For assistance and information, call:

City of Los Angeles
Bureau of Sanitation
Industrial Waste Permits Office
(213) 485-5886;

Submit the application and check to:

City of Los Angeles
Bureau of Sanitation
Industrial Waste Enforcement Division
4590 Colorado Blvd.
Los Angeles, CA 90039.

California General Industrial Stormwater Permit (40 CFR 122.26)(b)(14)

On November 16, 1990, the EPA published final regulations establishing requirements for stormwater discharge permits for various types of activities - including discharges associated with "industrial activities". The regulations require specific categories of industrial facilities to obtain either National Pollutant Discharge Elimination System (NPDES) permits for stormwater runoff/discharge directly into rivers or the ocean or submit an application to be covered under a `general' state storm water discharge permit in those states that have them (including California).


NOTICE OF INTENT

The California State Water Resources Control Board has issued a "General Permit for Discharges of Storm Water Associated with Industrial Activities (excluding construction activities). Industrial facilities (including public and government facilities) may elect to be covered under this State General Industrial Stormwater Permit (GISP) instead of preparing and submitting their own individual permit.

The storm water regulations and the State General Permit contains a list and description of the types of facilities and industries which are subject to storm water permitting requirements. It is your responsibility to determine whether your facility is subject to these requirements. Additional details regarding the storm water program are discussed in Chapter 3.

Application Process (Notice of Intent)

To obtain authorization for continued and future storm water discharges under this State General Permit, each facility must submit a two page Notice of Intent (NOI), facility map and application fees to the State Water Resources Control Board. By submitting the NOI, you are committing to several follow-up activities. To meet the compliance requirements of this General Permit, facility operators are required to:

- Eliminate unauthorized non-storm water discharges;

- Develop and implement a site-specific storm water pollution prevention plan (SWPPP);
- Perform periodic monitoring of storm water discharges and authorized non-storm water discharges; and
- Submit annual reports to the Regional Water Board.

Each of these requirements are described in the State General Permit.

Although the State Water Board has authority for issuing and administering the permits, the City of Los Angeles, Stormwater Management Division of the Department of Public Works, Bureau of Engineering will work with local industries by providing guidance and informational materials related to storm water compliance activities. Additionally, the Los Angeles Regional Water Quality Control Board is the regional agency (of the State Water Board) which administers storm water permit activities for the State after a facility submits the NOI to the State Water Board.

The GISP package, which includes an NOI, can be obtained from any one of the Department of Public Works, Bureau of Sanitation district office public permit counters or contact:

City of Los Angeles,
Stormwater Management Division
650 S. Spring St. - Seventh Floor
Los Angeles, CA 90014
(213) 847-6350; or

State Water Resources Control Board
Division of Water Quality
P.O. Box 944213
Sacramento, CA 94244-2130
(916) 657-1110; or

California Regional Water Quality Control Board, Los Angeles Region
(213) 576-6600

All necessary California General Industrial (and Construction) Storm Water Discharge Permit information, NOI forms, and other assistance is also available on the State Water Board's web site at

http://www.swrcb.ca.gov/stormwtr/index.html

Tiered Permitting (On-Site Hazardous Waste Treatment)
California HSC requires any facility performing any type of hazardous waste treatment or storage to have a Treatment, Storage, and Disposal Facility (TSDF) Permit or some other 'grant of authorization'. There are some exceptions for facilities who treat hazardous wastes on-site (at the facility at which they were generated) and then recycle a significant amount of the treated waste on-site.

Treatment of hazardous waste is defined as changing the chemical, physical or biological character or characteristic of the waste after it has

been generated. Examples of hazardous waste treatment include filtering and neutralizing. Even triple-rinsing of empty hazardous waste/material containers and puncturing and draining aerosol cans is considered hazardous waste treatment. 'Storage' is the accumulating of hazardous waste on-site past the 90, 180 or 270 day accumulation time limits (discussed in Chapter 2). If your business does not treat or store any hazardous waste, you are not subject to treatment permit requirements.

Assembly Bill 1772, the Wright-Polanco-Lempert Hazardous Waste Treatment Permit Reform Act of 1992, greatly changed the rules for authorizing the on-site treatment of hazardous wastes by the generator. AB 1772, establishing the Tiered Permit program, also reduces the time and expense needed for many businesses to obtain authorization to treat and/or store hazardous waste.

Tiered Permitting (Title 22, CCR, Section 67450.1 et seq.) establishes five tiers of authorization for the treatment and/or storage of hazardous waste. Four of these tiers are for those businesses that require State authorization to treat or store hazardous waste but do not require a RCRA hazardous waste facility permit under federal law.

The permit tiers:

1. RCRA TSD Facility Permit
2. Standardized Permit
3. Permit by Rule (PBR)
4. Conditional Authorization (CA), and
5. Conditional Exemption (CE) which includes:
    - Conditional Exemption Small Quantity Treatment (CESQT),
    - Conditional Exemption - Specified Wastestreams (CESW) and
    - Conditional Exemption - Limited (CEL)

Most hazardous waste generators do not store or dispose of wastes on-site, and do not treat wastes generated from off-site facilities/generators. Accordingly, those generators who do treat on-site generated wastes will most likely fall under one or more of the three lower tiers (PBR, CA, or CE). Which one or more of the three lower tiers a generator would be classified in depends upon the volume of waste treated, the type/hazard of waste treated, and the treatment method(s) being used. The higher the volume, hazard, and/or complexity of treatment method used - the higher the permit tier (e.g. PBR is a higher tier than CA).

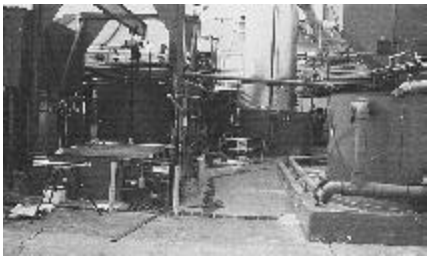
The hazardous waste section of the Unified Program Forms package contains the various On-site Hazardous Waste Treatment Notification forms required of all generators treating hazardous waste under PBR, CA or CE.

These forms contains detailed information on determining the specific permit tier(s) applicable to your situation. As the Los Angeles County Fire Department, Health Hazardous Materials Division is the Participating Agency for hazardous waste management under the CUPA program (see Chapter 1), the L.A. County Fire Department administer the Tiered Permit program within the City of Los Angeles.

Tiered permit application fees are invoiced and paid through the consolidated billing statement received from the CUPA (Los Angeles City Fire Department).

Tier 1 - 'Full' RCRA TSD Facility Permit

All facilities required to obtain a treatment, storage, or disposal permit under federal law, as well as State-regulated land disposal and incineration facilities, are included in this category. Examples of regulated facilities include commercial hazardous waste treatment, storage, recycling and/or disposal facilities that accept hazardous waste from off-site sources. These permits involve considerable document preparation and review, substantial fees, public notification and hearings, and many other requirements. DTSC primarily administer these permits.



Tier 2 - Standardized Permit

Standardized permits apply to California facilities that accept off-site generated non-RCRA wastes for treatment or storage. A standardized application contains many of the same elements and requirements as a full RCRA TSD Facility Permit, but is generally simpler to prepare. However, the preparation and compliance with a Standardized Permit is nonetheless an expensive, labor-, fee- and document-intensive endeavor.

Tier 3 - Permit By Rule (PBR)

Wastes with more than one hazard (e.g. acidic plating wastes containing toxic metals), or more complicated treatment processes (e.g. use of more than one treatment step such as neutralization followed by metal precipitation) or high volume treatment (e.g. over 5,000 gallons treated per month) usually fall under PBR.

Requirements for operating PBR-authorized treatment include specific recordkeeping and documentation requirements, demonstrating financial assurance, conducting a Phase I Environmental Assessment (using DTSC forms), preparing a closure plan and cost estimate, obtaining financial assurance, increased inspection and other operating requirements.

Notification forms are submitted with specific certification statements and application fees to the Los Angeles County Fire Department. Facilities may begin treating under PBR 60 days after the notification package has been submitted.

Tier 4 - Conditional Authorization (CA)

Conditional Authorization is the next lower tier, and generally authorizes treatment of single or dual-hazard wastes by specified technologies or methods in volumes less than 5,000 gallons or

45,000 pounds per month (although the generator's specific treatment operation must be evaluated against the specific CA criteria in the application package.)

Conditionally Authorized generators/treaters are subject to many of the same requirements as for PBR facilities, however, closure cost estimates are not required.

Notification forms are submitted with specific certification statements and application fees to the Los Angeles County Fire Department. Facilities may begin treating under CA 60 days after the notification package has been submitted.

Tier 5 - Conditional Exemption (CE)

This lowest tier includes:

Conditional Exemption - Small Quantity Treatment (CESQT).
A wide range of approved treatment technologies and wastes but limiting the volume treated to less than 55 gallons or 500 pounds per month. If the generator is performing any other waste treatment at the facility under any other treatment tier, they are disqualified from treating under CESQT (and must apply under a higher tier);
Conditional Exemption - Specified Wastestreams (CESW).
A higher treatment volume limit, but limited to specific low-hazard wastestreams generated by certain industries.
Conditional Exemption - Limited (CEL).
Generally limited to very simple treatment of very low hazard wastes (such as the gravity separation of oily wastewater in a flow-through clarifier, aerosol can puncturing etc.).

Requirements for operating Conditional Exemption-authorized treatment include specific recordkeeping and documentation requirements, increased inspection and other operating requirements.

Notification forms are submitted with specific certification statements and application fees to the Los Angeles County Fire Department. Facilities may begin treating 60 days after the notification package has been submitted.

Determination of Proper Tier

Determination of the proper tier requires consideration of factors such as the type of hazardous waste treated, the treatment technology used, and the monthly volume treated. After initially determining the proper tier for hazardous waste treatment using the Tiered Permitting 'flow diagrams' and instructions provided in the application package, you must indicate on the Tired Permit application form(s) the criteria for treatment of the wastestream under that tier and the description of your wastestream/ process combination, confirming that your initial determination is accurate.

A one-day low cost Tiered Permitting training class is offered by DTSC as

part of the California Compliance School program at various locations throughout southern California. Information on this course (Module V) can be obtained by contacting:

DTSC California Compliance School
c/o Bakersfield College
(800) 337-1422

Hazardous Waste Source Reduction Plan (or) Compliance Checklist and Management Performance Report

The Hazardous Waste Source Reduction and Management Review Act of 1989 (SB 14, HSC, Section 25244 et seq.) requires generators who routinely produce 12,000 kilograms (26,400 pounds) of hazardous waste or 12 kilograms (26.4 pounds) of extremely hazardous waste during a calendar year at a single site, must prepare two 'source reduction' documents every four years beginning September 1, 1991. Facilities treating (and then sewering) over 3,100 gallons of hazardous waste water under a tiered permit are also subject to SB14.

These documents are a "Source Reduction Evaluation Review and Plan" (Plan) and a "Hazardous Waste Management Performance Report." (Report)

The Source Reduction Plan identifies all major routinely generated hazardous waste streams at the generator's site and identifies potentially viable source reduction approaches along with an implementation schedule for the next four years. The Report assesses the effectiveness of hazardous waste management procedures previously implemented by the generator, including recycling and treatment activities.

Generators who are classified a small business can substitute a 'Source Reduction Compliance Checklist' (available from DTSC) instead of writing the Plan which allows compliance without all the expenses and inconveniences of formal Plan preparation. The Plan and Performance Report are not required to be submitted to an agency, but must be made available for review to an inspector upon request.

For additional information regarding the Plan, Checklist and Report refer to Chapter 7, Hazardous Waste Minimization, of this Guide.

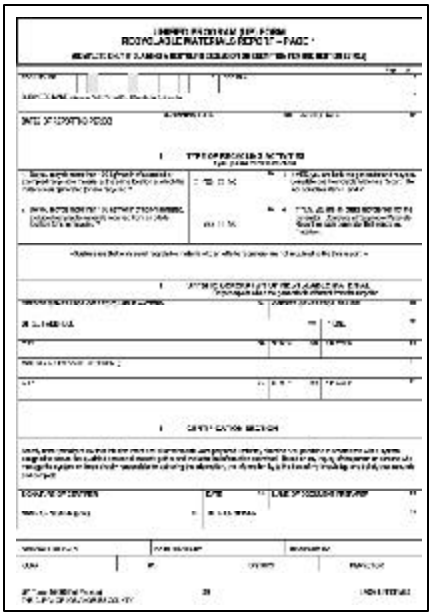
The Hazardous Waste Source Reduction Plan and Management Review Act also requires a document called a Summary Progress Report to be prepared by all generators. This Summary Progress Report simply and briefly summarized the results of implementing the source reduction methods identified in the generator's Source Reduction Evaluation Review and Plan or Checklist for each waste stream addressed in the Plan or Checklist.

Generators are required to submit the Summary Progress Report to the DTSC every four years.

Biennial Report (Title 22, CCR, Section 66262.4)

Generators who generate over 1,000 kilograms (2,200 pounds) of RCRA hazardous waste or over 1 kilogram of RCRA acutely hazardous waste

per calendar month (Large Quantity Generators – LQG) must prepare and submit a Biennial Report. Biennial reports are reports covering hazardous waste generator's activities during the previous odd-numbered a report. Persons who send materials to another location to be recycled, and who do not recycle material onsite under a claim to an exclusion or exemption (see Chapter 2) need not complete this report. The forms are contained in the Unified Program Forms package and completed reports should be submitted every two years to the Los Angeles County Fire Department.



Hazardous Waste Fees and Taxes

State Board of Equalization (HSC Section 25300 et. seq.)
As the California hazardous waste regulatory and clean-up program is 'self-funded', hazardous waste generators and other hazardous waste-related facilities are subject to state taxes and fees to fund the various DTSC programs. The specific amount and type of each fee and tax is established by the California legislature and may therefore change from year to year. The annual 'Environmental Fee Bulletin' is available from the State Board of Equalization at the telephone number below; the Bulletin describes the current years' taxes and fees. Most of these fees are payable to the State Board of Equalization, with some payable directly to DTSC or the CUPA.

In general, hazardous waste taxes and fees payable by hazardous waste generators include:

- Certified Unified Program Agency (CUPA) Fee - This fee, set by the Los Angeles City Council, funds the Los Angeles City (and County) Fire Department's hazardous waste regulatory and inspection programs. The fee is based on the type of waste management activities performed by the generator and the volumes.

- Hazardous Waste Disposal Fee - This fee funds the Hazardous Substance Account Act (state superfund) and certain emergency response activities. The fees (per ton of waste) is based upon the volume and category of hazardous waste disposed of both within and outside of California. Previously paid by the waste generator on a quarterly basis, these disposal fees are now charged (and paid) by hazardous waste disposal facilities as part of their waste disposal charges billed to their customers (generators).

- Activity Fee (Site Mitigation) - Those generators who are involved in a DTSC or CUPA-supervised site clean-up or investigation must pay a site-specific fee to cover the DTSC/CUPA oversight costs.

- Hazardous Waste Facility Fee - Operators of permitted hazardous waste treatment, storage and disposal facilities pay an annual fee based on the type and size of their facility. Generators treating under the Tiered Permit program are not subject to this particular fees.

- On-Site Hazardous Waste Treatment Notification Fee - Generators who are operating under one or more Tiered Permits must pay an

annual fee per facility.

- Generator Fee and Waste Reporting Surcharge - Generators producing 5 tons or more of hazardous waste per year pays an annual generator fee and surcharge for each generating facility based upon the volume of waste generated. Generators may, however, deduct from this fee/surcharge most of the CUPA fees already paid.

- Transportation Fee - Hazardous waste transporters (including generators who also transport wastes over public roads) must pay a registration and inspection fee.

- Environmental Fee - Corporations who use, store, generate or conduct any activities related to hazardous materials pay an annual fee based upon the number of employees in the corporation.

- Manifest Reprocessing Fee - DTSC assesses generators a small fee for each incorrectly completed hazardous waste (shipping) manifest returned to the generator for correction.

- Manifest User Fee - DTSC assesses a small fee for each hazardous waste manifest used within a year.

- EPA ID Number Verification Fee - DTSC assesses an annual verification fee for each facility with an EPA ID number. The fee is based upon the number of employees at the business.

For further information, call:

State Board of Equalization
Environmental Fee Division
(916) 739-2582.

DTSC has available a "Frequently Asked Questions Fact Sheet" for the EPA ID number verification and manifest fees. The fact sheet can be obtained from DTSC at
DTSC Regional offices
Glendale Regional Office (818) 5512800
Cypress Regional Office (714) 484-5300

Or online at
http://www.dtsc.ca.gov/

Small Business Assistance
For more information on Licenses, Permits and Reports, you can contact the following:

CalGOLD
Cal/EPA
(916) 322-2947
http://www.calgold.ca.gov/

California Business Environmental Assistance Center (BEAC)
North Orange County Community College District
4175 Fairmont Blvd.
Yorba Linda, CA 92886
(800) 662-BEAC

County of Los Angeles Fire Department
Health and Hazardous Materials Division
5825 Rickenbacker Rd
Commerce, CA 90040
(323) 890-4045

South Coast Air Quality Management District
Small Business Assistance
21865 E. Copely Drive
Diamond Bar, CA 91765-2000
1-800-CUT-SMOG

City of Los Angeles
Environmental Affairs Department, MS 177
Hazardous and Toxic Materials Office
200 North Spring Street, 19th Floor
Los Angeles, CA 90012
Environmental Hotline: 1 (800) 439-4666 or (213) 978-0891
http://www.lacity.org/EAD/eba/index.htm

San Fernando Valley Permit Assistance Center
4717 Van Nuys Blvd., Suite 102
Sherman Oaks, CA 91403
(818) 756-7572
http://www.calepa.ca.gov/pacs/

Financial Assistance
For those companies in need of financial assistance, there are organizations that can help in the compliance process. These organizations, primarily in form of government loans and incentive programs, exist to help the small and larger businesses that want to comply but need financial assistance.

For specifics contact the following organizations regarding:

California Dept. of Commerce
Office of Small Business
801 K Street
Suite 1700

Sacramento, CA 95814
(916) 445-1295 or (916) 324-9582

For specifics contact the following organizations regarding:
- R.U.S.T. Program
- H.L.P. Program
- C.L.E.A.N. Program
- California Hazardous Waste Reduction Loan Program

California Energy Commission
Research and Development Division
1516 9th St. MS 43
Sacramento, CA 95814
(916) 324-3490

For specifics contact the following organizations regarding:
- Small Business Loan For Technology Users

Cal-EPA
Department of Toxic Substances Control
Pollution Prevention and Regulatory Assistance
P.O. Box 806
Sacramento, CA 95812-0806
(916) 322-3670

For specifics contact the following organizations regarding:
- Hazardous Waste Reduction Technology, Research, Development and Demonstration Grant Program

California Pollution Control Financing Authority
915 Capitol Mall
Suite 466
Sacramento, CA 95814
(916) 645-5610

For specifics contact the following organizations regarding:
- California Loans for Environmental Assistance Now

South Coast Air Quality Management District
21865 E. Copely Dr.
Diamond Bar, CA 91765-2000
(909) 396-2000

For specifics contact the following organizations regarding:
- California Loans for Environmental Assistance Now
- Air Quality Assistance Fund (AQAF) Loan Guaranty Program

U.S. EPA
Office of Research and Development
Office of Exploratory Research
401 M Street S.W.
Washington, D.C 20460
(202) 382-7445

U.S. Small Business Administration
330 N. Brand Blvd.,
Suite 1200
Glendale, CA 91203-2304

SUMMARY OF HAZARDOUS WASTE PERMITS, LICENSES, RECORDS, AND REPORTS FOR HAZARDOUS WASTE GENERATORS IN THE CITY OF LOS ANGLES

(see the City of Los Angeles Business Guide to Environmental Services (1996) for a detailed list of required permits and related notifications)

HAZARDOUS WASTE MANAGEMENT HSC 25100 et seq.; 22 CCR 66260 et seq.; L.A. County Code 8.04.229					
Regulatory Requirements	**Agency Forms**	**File with Agency**	**Agency Telephone**	**Basic Requirements**	**Updates/Renewal**
EPA Identification Number 22 CCR 66262.12	*EPA Form 8700-12*	*DTSC or US EPA*	*(DTSC) 800-61-TOXIC (EPA) 415-495-8895*	*Every generator must have a state or federal EPA ID Number*	*Only if change in generator classification*
Unified Program Facility Permit - Hazardous Waste Generator and Hazardous Waste Onsite Treatment Program LAMC 57.14	*Yes*	*L.A. City Fire Dept.*	*213-485-8080*	*All LA City generators must have a Unified Facility Permit with an authorization for the Hazardous Waste Generator and Hazardous Waste Onsite Treatment Program*	*Annual*
Hazardous Waste Contingency Plan 22 CCR 66262.34(a)(3) and 66265.50-.56	*Yes – new Consolidated Contingency Plan in UP Forms*	*L.A. County Fire Dept.*	*213-890-4045*	*All hazardous waste generators must have a contingency plan for emergencies*	*Within 30 days of any significant change in information*
Uniform Hazardous Waste Manifest Copies	*EPA 8700-22 DTSC 8022A*	*DTSC*	*916-574-2200*	*Hazardous waste shipments must have a Uniform Hazardous Waste Manifest*	*None*
Manifest Exception Reports 22 CCR 66262.40(b)	*No standard form*	*DTSC*	*DTSC 818-551-2800, or 714-484-5300*	*An Exception Report must be filed if manifest copy is not returned by TSDF*	*None*
Empty Container Disposition Records 22 CCR 66261.7(g)	*No standard form*	*No*	*LA County Fire Department 213-890-4045*	*Generators must keep records of the disposition of empty containers > 5 gallons*	*None*
Misc. Recordkeeping (daily/weekly inspections, training logs, waste analysis/determinations) 22 CCR 66262 and 66265	*No standard form*	*No*	*LA County Fire Department 213-890-4045*	*Generators must maintain records related to their management of hazardous wastes*	*Daily, weekly, monthly, annually or as required*
Biennial Reports 22 CCR 66262.40(b)	*Yes*	*DTSC*	*818-551-2800, or 714-484-5300*	*All Large Quantity Generators (>1,000 kg/month) must prepare a Biennial Report*	*Every 2 years*
Land Disposal Restriction Notification/ Certification 22 CCR 66268.7(a)	*No standard form – but TSDF or transporter may provide their own*	*No (must accompany manifest)*	*DTSC 818-551-2800, or 714-484-5300*	*All manifested shipments of land disposal restricted waste must have a Notification/ Certification form*	*None*

On-Site Hazardous Waste Treatment – Tiered Permit	*Yes – treatment tier-specific*	*LA City Fire Department*	*213-890-4045*	*Most on-site treatment of hazardous waste requires a (tiered) permit*	*Varies*
Hazardous waste fee payments/records HSC 25300 et seq.	*Yes*	*State Board of Equalization, Environmental Fee Section*	*916-739-2582*	*Generators must pay fees based on specific hazardous waste activities*	*Quarterly to annual, and as required*
HAZARDOUS WASTE MINIMIZATION/SOURCE REDUCTION HSC 25244.12 et seq.					
Source Reduction Evaluation Plan and Management Report	*No standard form*	*No*	*DTSC 818-551-2800, or 714-484-5300*	*Generators of > 12,000 kg/year of hazardous waste must have a formal hazardous waste source reduction plan*	*Every 4 years*
Source Reduction Compliance Checklist	*Yes – from DTSC*	*No*	*DTSC 818-551-2800, or 714-484-5300*	*Generators of > 12,000 kg/year of hazardous waste **and** who are small businesses must have a formal hazardous waste source reduction plan but can use the checklist*	*Every 4 years*
Source Reduction Summary Progress Report	*Yes – from DTSC*	*DTSC*	*DTSC 818-551-2800, or 714-484-5300*	*Source reduction plan generators must submit report to DTSC*	*Every 4 years*
Hazardous Recyclable Materials Form HSC 25143.10	*Yes*	*L.A. County Fire Dept.*	*213-890-4045*	*Facilities which recycle hazardous wastes and claim the recycling exemption must describe the recycling activities*	*Every 2 years*
HAZARDOUS MATERIALS AND COMMUNITY RIGHT-TO-KNOW HSC Chap. 6.95; HSC 25500 et seq.; 19 CCR, LA Fire Code Div. 8					
Hazardous Materials Business Plan and Inventory LA Municipal Code 57, HSC 25500 et seq.	*Yes*	*L.A. City Fire Department*	*213-485-8080*	*Most hazardous waste generators must have a hazardous materials business plan and chemical/waste inventory*	*Within 30 days of any significant change in information*
California Accidental Release Response Prevention Program Registration HSC 6.5; HSC 25500 et seq; 19 CCR; LAFC Div. 8	*Yes*	*L.A. City Fire Department*	*213-485-8080*	*Business handling certain extremely hazardous substances must register these chemicals.*	*Within 30 days of any significant change in information*
California Accidental Release Response Prevention Plan HSC 6.5; HSC 25500 et seq; 19 CCR	*Standard Cover Filing Form, but no standard format for the Plan*	*L.A. City Fire Department*	*213-485-8080*	*Business handling over threshold amounts may be required to prepare a Cal-ARP Plan.*	*Every 3 years*
Report of Release or	*None (follow-up*	*L.A. City Fire*	*911 (LAFD);*	*Facilities must immediately report all releases*	*Immediate*

Threatened Release of Hazardous Substances HSC 25500 et seq.; 19 CCR 2703	*forms may be required by various agencies)*	*Department; California Office of Emergency Services*	*800-852-7550 (OES)*	*or threatened releases of hazardous substances (and wastes) which pose a threat to health, safety, property and/or the environment*	
STATIONARY SOURCE AIR EMISSIONS AND POLLUTION CONTROL HSC 40918 et seq.; HSC 42300 – 42301; HSC 44300 – 44384; SCAQMD Rules; 17 CCR 9330					
Permit to Construct/Permit to Operate SCAQMD Reg. II	*SCAQMD Form 400 and 400-XX*	*SCAQMD*	*909-396-2000*	*All equipment emitting or controlling air contaminants must be permitted prior to installation/operation*	*Annual or whenever modifying or relocating equipment*
New Source Review SCAQMD Reg. II	*No standard form*	*SCAQMD*	*909-396-2000*	*New, modified or relocated equipment must not cause a net increase in facility emissions – or emission offsets must be found prior to start-up*	*Before permitted equipment or operations change*
New Source Review SCAQMD Reg. XIV	*No standard form*	*SCAQMD*	*909-396-2000*	*New, modified or relocated equipment emitting listed toxic air contaminants causing a significant increase in cancer, or other health risk must have certain controls to reduce those risks prior to operation*	*Before permitted equipment or operations change*
Title V Facility Operating Permit SCAQMD Reg. XXX	*SCAQMD Form 500-XX*	*SCAQMD*	*909-396-2000*	*Facilities emitting over threshold amounts (in tons/year) of certain emissions must obtain a facility-wide operating permit*	*Initial and renewal every 5 years*
Toxic Hot Spots Emissions Inventory Plan 17 CCR 93300	*No standard form*	*SCAQMD*	*909-396-2000*	*Facilities emitting over certain threshold amounts of certain emissions must prepare and submit a plan to inventory their emissions of listed toxic air contaminants*	*As determined*
Toxic Hot Spots Emissions Inventory Report 17 CCR 93300	*Yes*	*SCAQMD*	*909-396-2000*	*Facilities emitting over certain threshold amounts of certain emissions must submit an inventory their emissions of listed toxic air contaminants*	*Updated every 4 years*
Risk Assessment 17 CCR 93300	*No standard form*	*SCAQMD*	*909-396-3600*	*Facilities whose toxic air contaminant emissions are over certain levels may be required to prepare and submit a health risk assessment*	*As determined and/or upon request*
Misc. Recordkeeping SCAQMD Rule 109 and Reg. XI	*No standard form*	*SCAQMD*	*909-396-3600*	*Facilities subject to many of the Reg. XI material/operational rules must keep daily records of their compliance with those rules*	*No – but must be kept up-do-date daily*
WASTE WATER MANAGEMENT 40 CFR 122–124; 40 CFR 15, 25, 100-140; CWC 13370-13389; LA Municipal Code 64.3					
Industrial Waste Water Discharge Permit 40 CFR 15, 25, 100-140;	*Yes*	*L.A. City Bureau of Sanitation*	*213-485-5874*	*Facilities discharging waste water into the sewer system must hold a discharge permit and comply with discharge limits*	*Every 3 years and upon any change in waste water-related*

LAMC 64.3					*operations*
National Pollutant Discharge and Elimination System (NPDES) Permit/Waste Discharge Requirements (WDR) CWC 13370-13389	*Yes*	*CA Regional Water Quality Control Board, Los Angeles Region*	*213-576-6600*	*All discharges directly into surface waters must be covered under a permit and meet discharge limits and monitoring requirements.*	*Annual with periodic monitoring*
Waste Discharge Requirements (WDR) CWC 13360	*Yes*	*CA Regional Water Quality Control Board, Los Angeles Region*	*213-576-6600*	*All discharges into any are other than into a municipal sewer system must be covered under a permit.*	*Annual with periodic monitoring*
Storm Water Permit/Notice of Intent to Comply 40 CFR 122-124	*Yes*	*State Water Resources Control Board*	*916-657-0786*	*Facilities discharging storm water associated with or contacting industrial activities must either have a NPDES permit or file a NOI to be covered under the State General Industrial Permit*	*As required whenever the State permit changes*
Storm Water Pollution Prevention Plan 40 CFR 122-124	*No standard form*	*CA Regional Water Quality Control Board, Los Angeles Region*	*213-576-6600*	*Facilities covered under a storm water permit/NOI must prepare and implement a Storm Water Pollution Prevention Plan and perform periodic sampling and visual observations and file annual reports*	*Annual report with periodic water sampling and visual observations*
UNDERGROUND & ABOVEGROUND STORAGE TANKS (USTS & ASTS) HSC 25280-25299.1; 23 CCR 2641, 2650, 2670, LAMC 5731					
AGT/UGT Hazardous Waste Tank Assessments/ Repair Certification 22 CCR 66262.34(a)(1), 66265.191-193, and 66265.196(g)	*No standard form*	*L.A. County Fire Department*	*213-890-4045*	*Generators accumulating or treating hazardous waste in tanks must certify the integrity of the tank annually and whenever the tank is repaired*	*Annual and as required*
AGT Hazardous Waste Tank Inspection Log 22 CCR 66262.34(a)(1) and 66265-195(c)	*No standard form*	*No*	*LA County Fire Department 213-890-4045*	*Generators accumulating or treating hazardous waste in tanks must perform written daily tank system inspections*	*Every operating day*
UST Installation or Upgrade HSC 25280-25299.1; 23 CCR 2240 et seq.; LAMC 5731	*UST Facility Form; UST Tank Form (one per tank); UST Installation Certification Form;*	*L.A. City Fire Department*	*213-485-8080 or 213-237-0600*	*Facilities installing new or upgrading exiting hazardous material or waste USTs must submit application and certifications forms (with engineering information) prior to commencing work or operating the tank*	*Before installation or upgrade work*

	LAFD Division 5 Application				
UST Permit HSC 25280-25299.1; 23 CCR 2240 et seq.; LAMC 5731	*UST Facility Form; UST Tank Form (one per tank)*	*L.A. City Fire Department*	*213-485-8080 or 213-237-0600*	*Facilities operating hazardous material or waste USTs must obtain a permit to operate the tank*	*Annual*
UST Monitoring 23 CCR 2641	*No standard form*	*No*	*L.A. City Fire Department 213-485-8080 or 213-237-0600*	*Operators of hazardous materials or waste USTs must keep regular tank monitoring/leak detection records*	*Daily to monthly depending upon the type of monitoring method used*
UST Inspections/Testing 23 CCR 2641	*Yes*	*L.A. City Fire Department*	*L.A. City Fire Department 213-485-8080 or 213-237-0600*	*Operators of hazardous materials or waste USTs must inspect the tank system and perform periodic leak testing*	*None to daily to monthly with annual or biennial tank integrity testing depending upon the type of monitoring method used*
UST Unauthorized Releases 23 CCR 2650	*State Water Board UST Release Report Form*	*CA Regional Water Quality Control Board, Los Angeles Region; and LA City Fire Department*	*CA Regional Board 213-576-6600 L.A. City Fire Department 213-485-8080 or 213-237-0600*	*Unauthorized releases from UST secondary containment or releases from primary into secondary containment (if not cleaned up within 8 hours) must be immediately reported*	*Immediately upon discovery of an unauthorized release, and in writing within 5 days*
UST Closure/Removal 23 CCR 2670	*UST Tank Form – closure section (one per tank); UST Tank Closure Form*	*L.A. City Fire Department*	*213-485-8080 or 213-237-0600*	*Facilities closing or removing hazardous material or waste USTs must obtain a permit prior to closure/removal*	*Before tank closure/removal*
AST Permit LAMC 5731	*LAFD Division 5 Application*	*L.A. City Fire Department*	*213-485-8080 or 213-237-0600*	*Facilities installing new or upgrading exiting hazardous material or waste ASTs must submit application form (with engineering information) prior to commencing work or operating the tank*	*Before installation or upgrade work*
Petroleum AST Registration and Fee	*No standard form*	*State Water Resources Control Board*	*916-657-1110*	*Facilities must register ASTs storing petroleum products and pay fees (based on the size of the tank(s)).*	*2 years*
AST Spill Prevention Control and Countermeasures Plan (SPCC) 40 CFR 112	*No standard form*	*No*	*L.A. City Fire Department 213-485-8080 or 213-237-0600*	*Facilities with above ground petroleum storage capacity > 1360 gallons and which could spill harmful quantities into waterways/storm channels must prepare an SPCC plan with registered engineering certification*	*3 years*

Report of Release or Threatened Release of Hazardous Substances HSC 25500 et seq.; 19 CCR 2703	*None (follow-up forms may be required by various agencies)*	*L.A. City Fire Department; California Office of Emergency Services*	*911 (LAFD); 800-852-7550 (OES)*	*Facilities must immediately report all releases or threatened releases of hazardous substances (and wastes) which pose a threat to health, safety, property and/or the environment*	*Immediate*
TRAINING DOCUMENTATION 8 CCR 3203 and 5194; 22 CCR 66262.34(a)(3) and 66265.16					
Hazardous Waste Personnel Training Records 22 CCR 66262.34(a)(3) and 66265.16	*No standard form*	*No*	*LA County Fire Department 213-890-4045*	*Generators must maintain records related to the training of personnel handling hazardous wastes*	*Review training program and refresh training annually*
Hazard Communication Program 8 CCR 5194	*No standard form*	*No*	*Cal-OSHA 213-736-3041*	*Employers must maintain records related to the training of personnel handling hazardous materials*	*Whenever a new hazard or hazardous material is introduced into the workplace*
Illness and Injury Prevention Plan 8 CCR 3203	*No standard form*	*No*	*Cal-OSHA 213-736-3041*	*Employers must maintain a written Injury and Illness Prevention Plan, including records of self-inspections ,safety training and safety meetings*	*As needed*

NOTES

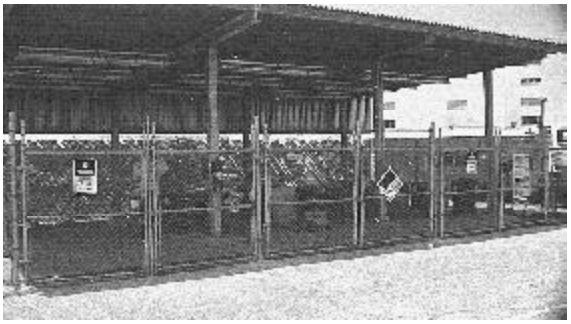
CHAPTER SUMMARY

- *Incompatible hazardous wastes must be kept separate.*
- *Many other hazardous wastes should be kept as segregated as possible to enhance recyclability.*
- *All storage/accumulation containers must be properly labeled and the accumulation start date indicated.*
- *Hazardous wastes accumulated on-site may not exceed the allowable accumulation time limits.*
- *Containers must be in good condition and inspected weekly to detect signs of rusting, leakage and other problems.*
- *Hazardous wastes must be handled safely, in a manner to avoid leaks, spills and fires.*
- *Universal wastes and other special forms of regulated waste must be managed in specific ways.*
- *Hazardous waste tanks must meet certain engineering requirements, be equipped with secondary containment and must be inspected daily.*
- *Hazardous waste storage and accumulation areas should be designed and operated to contain any spilled materials.*
- *Hazardous waste storage and accumulation areas must be inspected weekly.*
- *All spills should be cleaned up and appropriate agencies notified.*
- *Facilities should have a closure plan to clean-up the site after an operation ceases.*

CHAPTER 5

HAZARDOUS WASTE STORAGE AND HANDLING

Safely Accumulating Your Waste



Once you have determined that you are generating hazardous waste, you should make a specific written plan for the management of your hazardous waste. The plan should describe your facility's own site-specific procedures for properly handling and accumulating the hazardous wastes you generate. This written waste management plan or program, while not required by regulation, will help your facility personnel understand and follow hazardous waste management requirements and is a great tool you can use in conducting required hazardous waste personnel training. Think of it as a hazardous waste policy and procedure manual.

In addition to the hazardous waste-specific accumulation requirements discussed below, the Los Angeles City Fire Code may impose several additional requirements on the way that your facility manages its hazardous waste and materials. The Los Angeles Fire Department can provide you with additional information on Fire Code requirements.

As with any hazardous material, the specific hazardous waste handling and accumulation methods used at your facility will depend in large part on:

- The physical state of the waste, i.e. solid, sludge or liquid;
- Its chemical and physical properties, e.g. acid, alkaline, solvent, etc.; and
- The specific hazard(s) exhibited by the waste.

Waste Segregation

To prevent dangerous reactions (fires, toxic vapor/gas release, overpressurization), incompatible wastes may not be mixed in the same container. However, you may not need to separate every kind of waste from each other, although it is preferred that all wastes be separated to the fullest extent possible. A waste stream can be made up of similar types of wastes as long as they are chemically compatible with each other, and the mixing of the wastes doesn't constitute treatment (i.e. there is no chemical or physical change as a result of the mixing). You can refer to the MSDSs for the materials, Los Angeles County Fire Department, DTSC or private consultants for advice.

The first step is keeping liquids and solids separated at the very beginning. Keep materials such as rags and solvents or cleaners of any

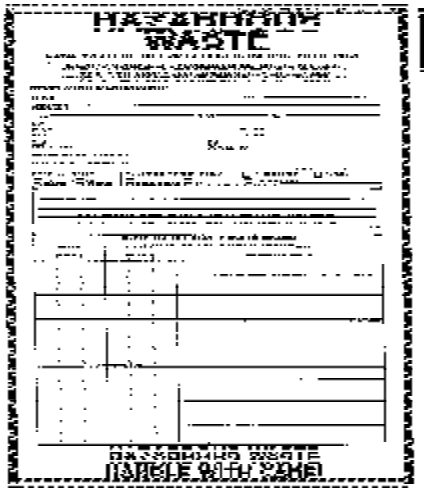
type out of waste oil containers. Don't pour oil into solid waste containers. The cost of disposal for liquid oily waste will increase dramatically if solvents, rags or other solids are in it. Contaminating this oil with other waste such as paint, acids or caustics will increase the disposal cost and may render it unacceptable for recycling.
Do not mix non-hazardous wastes with hazardous waste. The entire contents become hazardous according to the hazardous waste regulations. Mixing RCRA hazardous wastes with non-RCRA hazardous wastes will render the entire mixture a RCRA hazardous waste.
Avoid mixing several different hazardous wastes. Doing so may make recycling very difficult, if not impossible, or make the disposal more expensive. Mixing non-compatible wastes, such as organic liquids and acids, may also cause a dangerous chemical reaction and/or can be considered illegal treatment.

Labeling Your Container

Every hazardous waste container is required to be properly labeled. The type of label is dependent upon the container size and/or the contents of the container. The marking on the labels must be permanent and legible, and the completed label must be clearly visible on the container.

Hazardous Waste - Each hazardous waste container that is portable or less than 110 gallons and used for accumulation or storage on the premises (as well as transportation) must be labeled with the following information:

- The words/phrases "Hazardous Waste" and "State and Federal law prohibits improper disposal. If found, contact the nearest police or public safety authority, the U.S. Environmental Protection Agency, or the California Department of Toxic Substances Control." These are usually pre-printed on the label.
- Name and address of the generator
- Contents and composition of the container (e.g., waste oil, perchloroethylene, radiator coolant)
- Hazardous properties of the waste (e.g., flammable, toxic, reactive, corrosive)
- Physical state (e.g., liquid or solid)
- Initial starting date for waste accumulation (Accumulation Start Date)



For hazardous waste stored in stationary (permanently mounted) containers or tanks greater than 110 gallons, the words "Hazardous Waste" are to be marked on the container or tank, and a properly completed hazardous waste label affixed to the tank or on an adjacent post, sign or wall. You can purchase special hazardous waste labels (see below for vendors) that allow for repeated tank pump-out/refill cycles without changing labels.

Recyclable Material - Excluded recyclable material (as defined by HSC, Section 25143-9) must be handled, stored and labeled on the premises in the same manner as hazardous waste with the exception that the words "Hazardous Waste" on the label is replaced with the words "Excluded Recyclable Material". This material is subject to the 90-day storage requirements.

Drained Used Oil Filters - Containers of drained used oil filters which are recycled offsite at a scrap metal recycler must be labeled only with the words "Drained Used Oil Filters" and the initial date of accumulation. When drained oil filters are not recycled offsite, they must be stored and disposed as hazardous waste, or if a waste determination (See Chapter 2 of this guide) finds the filters to be non-hazardous, the storage and disposal requirements for hazardous waste do not apply.

Universal Waste – Universal wastes (or the outside containers holding universal wastes) must be neatly labeled or marked as "Universal Waste Lamps (or Batteries, etc.)", or "Waste Lamps", etc., along with h accumulation start date.

The use of commercially printed labels is a convenience many generators take advantage of. Hazardous waste adhesive labels are available from many sources such as safety supply or industrial label supply companies. However, several states have slightly different forms of required labels, and labels provided to you by your hazardous waste vendor or recycling/ disposal contractor may not contain all of the required California label wording or elements. Regardless of the source of labels, you must make sure that the label is the correct California-compliant label. Sources of labels include:

- LabelMaster; 5724 North Pulaski Road, Chicago, IL 60646 (800) 621-5808
- Lab Safety Supply Inc., P.O. Box 1368, Janesville, WI 53547 (800) 356-0783
- HCL Labels, Inc., 510 East Maude Ave., Sunnyvale, CA 94086 (800) 421-6710
- New Pig, One Pork Ave., Tipton, PA 16684 (800) HOT-HOGS

On-Site Accumulation/Storage Time Limits

Most hazardous waste generators accumulate hazardous waste until enough is collected to make transport to a licensed hazardous waste management facility more economical. However, you may not accumulate wastes for longer than the regulatory time limits and may not accumulate more than the regulatory volume limits. If you exceed these limits, you will need a storage (Treatment, Storage and Disposal Facility) permit from DTSC.

≤ 100 kg/mo hazardous waste

or

≤ 1 kg/mo extremely or acutely hazardous waste

If you generate less than or equal to 100 kilograms (220 pounds or, depending upon the specific chemicals, between about 17 to 48 gallons) of hazardous waste or less than one kilogram (just over 2 pounds) of extremely hazardous waste in any calendar month:

- The hazardous waste must be transported offsite within ninety (90) calendar days once 100 kilograms (kg) of hazardous waste (or 1 kg of extremely hazardous waste) have accumulated;
- The 90-day period does not begin until you have generated 100 kg (or 1 kg of extremely hazardous waste).

Between 100 and 1,000 kg/mo hazardous waste

If you generate more than 100 kg but less than 1,000 kg (between 220 and 2,200 pounds or, depending upon the specific chemicals, between about 17 and 480 gallons) of hazardous wastes per month:

- Hazardous waste may be stored onsite for up to 180 days after the very first amount of waste has been generated; or
- If the waste must be transported over a distance of 200 miles or more, the generator may store the waste for up to 270 days.

The preceding 180-270 day storage times apply only if the following conditions are met:

- The total quantity of hazardous waste accumulated onsite (at any one time) never exceeds 6,000 kg (13,200 lbs. or, depending upon the specific chemicals, between approximately 1,000 to 2,900 gallons);
- The generator has complied with all of the contingency plan requirements (refer to Chapter 9 of this Guide); and
- The generator does not store extremely hazardous or acutely hazardous waste in an amount greater than 1 kg (2.2 pounds) for more than 90 days.

>1,000 kg of hazardous waste

If you generate more than 1,000 kg (2,200 pounds or, depending upon the specific chemicals, over approximately 170 to 480 gallons) of hazardous wastes per month:

- Hazardous waste cannot be stored for more than ninety (90) days after the day the waste was first generated.

The Satellite Accumulation 'Extension'

If you generate more than 100 kilograms of hazardous waste per month, you may be able to accumulate certain quantities of hazardous wastes for longer than the 90, 180 or 270 day accumulation time limit. Satellite accumulation allows storage of small amounts of hazardous waste for up to one year total from the initial date the waste was first generated provided the following conditions are met:

- Waste is stored at the initial point of generation and under control of the operator of the process generating the waste;
- A maximum of 55 gallons of hazardous waste or one quart of extremely hazardous waste is accumulated at any one satellite location;
- Containers or drums are properly labeled;
- Within three (3) days after reaching the maximum storage quantity, a new accumulation date (date that the 55 gallons or 1 quart was reached) must be marked on the container and the waste removed offsite within the specified time limit (SQG or LQG).

In 1999, DTSC adopted provisions for extensions of generator accumulation time limits due to unforeseen, temporary and uncontrollable circumstances. For RCRA wastes, DTSC may grant an extension of up to 30 days to generators who file a "Hazardous Waste Storage Extension Application" with the DTSC. The form and detailed conditions and instructions are available on DTSC's web site or from

DTSC
State Regulatory Programs Division
Northern California Branch
700 Heinz Ave., Suite 210
Berkeley, CA 94710
Attention: Ms. Asha Arora
510-540-3874

The completed form should be sent to DTSC at the above address.

For non-RCRA and RCRA-exempt wastes, up to one 90-day extension will be automatically granted by the CUPA/PA (Los Angeles County Fire Department) if a generator meets certain eligibility requirements (Title 22, CCR, Section 66232.35 (a)(1)). Additional extensions may be granted on a case by case basis. The generator must submit a letter request, containing the specific reasons and certifications to the fire department. DTSC has a fact sheet available on these extensions, as well as on hazardous waste accumulation time for generators. Both fact sheets are available from

DTSC Regional offices
Glendale Regional Office (818) 5512800
Cypress Regional Office (714) 484-5300
http://www.dtsc.ca.gov/library

Safely Managing Hazardous Waste Containers

Generators must safely manage their hazardous wastes in a manner to reduce the risk of fires, explosions, spills and releases. Portable tanks are designed and operated to be stationary when full/in use but portable when empty and are regulated as containers. Title 22, CCR requirements include:

- Containers must be compatible with and appropriate for the type and hazards of the waste stored. DOT-approved transportation containers must be used whenever transporting a hazardous waste; however, DOT containers are not required while the waste is on your facility;
- Containers must be in good condition, with no significant rusting or dents;
- Containers must be kept tightly closed at all times, except while actually adding or removing wastes. If you are using drum funnels, make sure to use the type that threads into the drum opening and is equipped with a gasketed, locking lid;
- Labeling containers as soon as the first drop is accumulated;
- Ignitable and reactive wastes must be stored at least 50 feet from the property line;
- Managing containers safely. This means using the proper type of drum/container handling and moving equipment, not smoking near ignitable wastes, using secondary containment or other spill collection devices, etc.; and
- Inspecting container accumulation areas weekly (see 'Inspections' below).

Don't forget that if you have a storm water pollution prevention plan for your facility, it should include your hazardous waste container management.

Tank Storage of Hazardous Waste

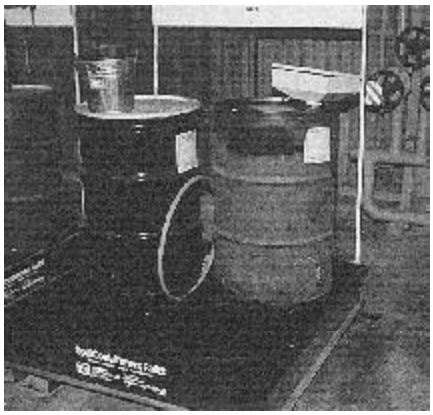
Storage of hazardous wastes in stationary tanks involves many more specific management and engineering requirements than for containers. For aboveground hazardous waste tanks, Title 22, CCR requires:

- The tank is appropriate and suitable for and compatible with the

waste(s). A registered Professional Engineer (which may include the tank manufacturer) must make this determination in writing;
- Uncovered tanks must maintain a 2-foot freeboard (top of the waste to the top of the tank);
- Secondary containment sufficient to hold at a minimum of 100% of the volume of the largest tank or 10% of the total volume of all tanks within a containment area (whichever is greater) plus the volume of 24-hours of rainfall accumulation. A registered Professional Engineer must determine (in writing) that the secondary containment system is adequate;
- Waste-feed cut off or by-pass systems for continuously fed tanks;
- Overfill controls;
- Inspecting tanks and containment areas daily (see 'Inspections' below); and
- Specific responses to leaks, including:
  - halt flow into the tank,
  - contain/remove contents (within 24 hours),
  - contain/remove visible releases,
  - report to DTSC within 24 hours if the leak is outside secondary containment,
  - submit a written environmental impact assessment report to DTSC within 30 days, and
  - Registered Professional Engineer certification if extensive repairs are needed.

The Los Angeles City Fire Department regulates storage of hazardous materials in underground storage tanks - including hazardous wastes. If you are storing or accumulating hazardous waste in an underground tank, both the city and county fire departments will require a permit and have additional secondary containment, monitoring/leak detection and other compliance elements. (see Chapter 4 of this Guide). Hazardous wastes in above ground tanks are regulated by Los Angeles County Fire Department.

Hazardous Waste Accumulation Areas



The area(s) your facility use to accumulate hazardous wastes (e.g. wherever hazardous waste containers are located or stored) must also meet certain requirements and be managed in a safe and environmentally sound manner. These Title 22, CCR requirements include:

- Maintaining enough aisle space between containers or rows of containers to allow for easy inspections and access by emergency personnel in the event of a leak;
- For wastes that react with each other, the containers should be physically separated (by curbs, or in separate containment pallets); the containers during storage;
- Accumulating/storing the waste containers on a surface that is free of cracks and gaps, and which is resistant to leaks or spills. Using fiberglass, steel or other type of secondary containment pallets are an excellent way to meet this requirement;
- Maintaining certain emergency equipment in the area. This includes fire extinguishers, spill control supplies, safety shower/eyewash, and emergency communication devices (such as a telephone or alarm);

NFPA Hazard Rating:
The National Fire Protection 704 Hazard Signal System (sometimes referred to as the "fire diamond") is a system that uses a rating scale of 0 to 4 to describe health (blue), flammability (red), and reactivity (yellow) hazards to emergency responders. A fourth category (white) defines specific hazards or warnings such as radioactivity, corrosiveness, or the need to avoid mixing with water.

Health Hazard (Blue)
0 = Essentially non-toxic
1 = Slight toxicity
2 = Moderate toxicity
3 = Highly toxic
4 = Extreme or lethal toxicity

Flammability (Red)
0 = Will Not Burn
1 = Combustible - will ignite if greatly preheated
2 = Moderately flammable - will ignite if slightly to moderately preheated
3 = Highly flammable - will ignite at most ambient conditions
4 = Extreme

Reactivity (Yellow)
0 =Stable and Not Reactive with Water
1 = Unstable if Heated
2 = Violent Chemical Change
3= Shock and Heat May Detonate
4 = May Detonate

Special Hazard (White)
OX = Oxidizer
W = Use No Water
CO = Corrosive

- Posting appropriate warning signs (such as 'Caution - Hazardous Waste Storage Area', 'NO Smoking', NFPA (four color diamond) hazard warning signs, etc.); and
- Maintaining reasonable area security to assure that only properly trained personnel have access to hazardous waste containers.

You should also be aware that, because hazardous wastes are also hazardous materials, the requirements of the Los Angeles City Fire Code would also apply. The Los Angeles City Fire Department performs periodic hazardous materials/fire code inspections of business and can provide additional code compliance information.

Although not specific regulatory requirements, the following are 'good management practices' which will reduce the potential for accidents, spills and leaks, health and safety problems, and environmental damage. Implementing good management practices is also an excellent waste reduction technique and will reduce the cost of waste management. These practices include:

- Not stacking containers or pallets of containers. This will reduce the possibility of a spill or injury during an earthquake;
- Storing all containers on secondary containment pallets or on pallets in a secondary containment area. Using pallets aids movement and keeps containers off the floor, aiding leak detection; and
- Storing your wastes so they are not exposed to rain, direct sunlight, high or low temperatures.

Security and Secondary Containment

All hazardous materials and wastes need to be kept secure. A secure storage area needs to be provided to prevent unauthorized personnel or the public from having access to the waste at any time. This may mean locating hazardous waste in a secure area of your building or yard. If your storage area is not secure, you may need to fence it off with a locked gate and appropriate warning signs.

Local fire and building codes, Cal/OSHA requirements and other regulations should be considered when locating these hazardous materials on your property. Property boundaries, ignition sources, building entrances, parking areas and on-site traffic, location of storm drains, and materials that react with each other must be taken into consideration. Also, heat can increase internal pressure of a drum leading it to rupture or burst. The storage area should be made to contain any spilled materials. Berms or other approved methods can be used. Secondary containment pallets and other drum/container spill control storage devices are widely available from many industrial and safety equipment suppliers. Materials that react with each other must be separated to prevent their accidental mixing. A berm, dike, wall, or other device must separate these materials if stored nearby.

Hazardous waste spill response materials, such as absorbents and personal protective equipment must be provided and located near the storage area. Don't forget that all materials used to clean up such spills

or leaks may also become hazardous waste and must be disposed of in the same manner. A safety shower and/or eyewash also may be required.

Accumulation Area Inspections

All areas used for accumulating hazardous wastes must be inspected weekly, and a written inspection record must be kept. A checklist is a handy way to document the inspections. Your inspection checklist should include the following:

- Are all containers in good condition?
- No leaking containers or evidence of spills?
- Is all waste stored in a compatible container?
- Are all containers stored tightly closed? Bungs, lids on? Funnels tightly closed?
- Are the containers properly and clearly labeled with all required information?
- Do all labels show what is actually in the container?
- Are incompatible wastes separated?
- Does the waste storage area have an impermeable (leakproof) floor? No cracks or gaps?
- Are secondary containment pallets/areas clean, dry and in good condition?
- Is the waste storage area covered or otherwise protected from rain and direct sunlight?
- Is there enough aisle space between all containers?
- Is the waste stored within the maximum accumulation time limits (90/180/270 days)?
- Is all safety and emergency equipment clean and in good working order?
- Is there clear access to all safety and emergency equipment?

Whenever a problem is found during your weekly inspections, you should take immediate corrective action, and document the corrective action taken on your inspection checklist. Wherever possible, you should find the reasons the problem occurred and take steps to make sure the problem does not happen again.

Spills and Clean-Up

If a container leaks or a minor spill occurs, it must be cleaned up immediately if it is safe to do so, assuming that employee safety is not in jeopardy. (see Chapter 9 of this Guide for a detailed discussion of Emergency Plans and Requirements.) Your employees must be trained in clean-up procedures. These procedures must include, although are not limited to, the following:

- Use the proper protective equipment. Refer to the Material Safety Data Sheet (MSDS) provided by the chemical manufacturer for the necessary personal protective equipment. This may include respirators, eye protection, gloves and body protection;
- Keep all unauthorized personnel away from the containment area;
- Keep all hazardous waste within the containment area and facility boundaries;

- Stop and contain the leak/spill as soon as possible;
- Prevent the substance from getting into stormwater drains, water courses, or sewer systems if possible; and
- Dispose of all contaminated materials, such as absorbents as a hazardous waste.

The State Office of Emergency Services (OES) and the Los Angeles City Fire Department must be notified immediately if there is any significant release or threatened release of a reportable quantity of a hazardous substance. In California, all spills or releases that could pose a hazard to health, safety, property or the environment must be immediately reported - regardless of the volume spilled or whether it flows off of the property.

The federal National Response Center must be notified immediately if there is a release in a quantity equal to or exceeding the federal Reportable Quantity (RQ) as listed in Title 40, CFR, Section 302.4.

Special or Modified Requirements for Certain Wastes

Certain waste streams have special or modified requirements for accumulation, handling and/or accumulation times. These include:

Drained Used Oil Filters (Title 22, CCR, Section 66266.130) must be stored in closed rainproof containers, and up to one ton (2,000 pounds) of filters can be accumulated for up to one year. Storage of over one ton is limited to 180 days. The crushing of oil filters is exempt from treatment permit requirements. The filters must ultimately be sent for scrap metal recovery/reclamation.

Empty Containers (Title 22, CCR, Section 66261.7) were previously discussed in detail in Chapter 2. But as a good management practice, empty containers should never be stored upside down (as the small amount of residue inside will leak out onto the ground). To keep rainwater out of the empty containers, the drum bungs or caps should be on tight, or the empties stored under a tarp or other cover.

Aerosol Spray Cans (Title 22, CCR, Section 66261.7) as noted in Chapter 2, must be completely empty of all contents to be considered non-hazardous waste. Although many businesses use aerosol can puncturing and draining devices (usually mounted on the top an open-head drum), use of these devices is considered hazardous waste treatment and requires a Tiered Permit (Conditional Exemption – Limited; see Chapter 4). The tiered permit conditions and requirements for aerosol can puncturing/draining devices are numerous and specific.

Lead-Acid Batteries (Title 22, CCR, Sections 66266.80 and 66266.81) were also discussed in Chapter 2. Spent batteries should be stored upright on a non-metal containment pallet or acid-resistant curbed area, with caps on and protected from short circuiting. Damaged batteries (cracked, broken or missing caps), must be stored in a non-reactive closed container, such as a polyethylene bucket or drum), and the container labeled “lead-acid batteries” and the date the first battery was placed in the container. Generators may store up to one tone of batteries

for up to one year (and over one ton for up to 180 days).

If you generate no more than 10 batteries per year, or store or transport no more than 10 batteries at one time, your facility is not subject to recordkeeping and reporting requirements. All spent batteries must be sent to a facility that recycles, uses, reuses or reclaims them, including people who trades in an old battery for a new one.

If more than 10 batteries are shipped at a time, a manifest or bill of lading must accompany the shipment, and generators subject to recordkeeping requirements must keep a copy of the bill of lading for 3 years. The bill of lading should detail the generator, transporter and destination facility name, address and phone number; as well as the number and type of batteries shipped. Annual battery management reports to DTSC are no longer required.

Universal Wastes (Title 22, CCR, Section 66273), as discussed in Chapter 2, include lamps, most batteries (except vehicle-type), cathode ray tubes (CRTs – computer and television screens/picture tubes) and mercury-containing thermostats. There are three categories of universal waste 'generators': Conditionally Exempt Small Quantity Universal Waste Generators (discussed at the end of this subsection), Small Quantity Handlers (accumulate less than 5,00 kilograms or 11,000 pounds of universal wastes at any time) and Large Quantity Handlers (accumulate more than 5,000 kilograms). For determining a facility's generator and handler categories, hazardous waste and universal waste should be counted separately. Most businesses in the City of Los Angeles will probably fall in the Small Quantity Handler category. Small businesses may fall in the Conditionally Exempt Small Quantity Universal Waste Generators (discussed at the end of this subsection). Certain facilities may also fall qualify as 'Electronic Product Generators' (also discussed at the end of this subsection).

The universal waste regulations contain specific management requirements and allowances for each of the three main types of universal wastes. In general, however, requirements for universal waste handlers include:

- No disposal or discarding of universal wastes into the trash;
- No dilution or treatment (including fluorescent tube crushing or breaking of CRTs), except by responding to releases (e.g. use of a mercury spill clean up kit);
- Storage of universal wastes in closeable protective containers (e.g. batteries in a closed bucket, lamps back into their original shipping/ packing boxes);
- CRTs must be stored in a way that prevents breakage;
- Labeling as a universal waste, along with they general type of universal waste;
- One year accumulation time limit (longer for specified reasons);
- Spills and releases cleaned up by 'trained' employees;
- Spill residue that consists of only broken, damaged or leaking

universal wastes can be managed as a universal waste (packaged, labeled, as universal waste etc.). Mixed universal and hazardous residues may need to be managed as a hazardous waste (unless characterized as non-hazardous);
- Employees must be trained in universal waste handling requirements;
- Universal waste can be sent to any other universal waste handler – but ultimately all universal waste must be sent to a permitted hazardous waste recycling facility*; and
- Small quantity handlers are not required to track or keep records of universal waste shipments, but large quantity handlers are.

* New universal waste regulations for CRTs allow for the management of CRTs by a 'CRT material handler' who may treat or recycle the CRT in specific ways without needing to obtain hazardous waste facility permit. These requirements are specified in 22, CCR, Section 66273.80 through 66273.90. Please also note that CRTs sent off-site for use, reuse, repair or refurbishing (none of which involve the breaking or disposal of the CRT (glass screen/tube) itself) are not considered universal or hazardous waste. DTSC has a new August 2001 Fact Sheet, as well as a March 2001 Fact Sheet and regulatory interpretation memo (available on DTSC's web site at
http://www.dtsc.ca.gov/docs/Current.html
or from the HTM Office at
http://www.lacity.org/EAD/eba/index.htm).

Electronic Product Generators: Businesses or other persons who produces five or fewer CRTs per calendar month generally qualify for the Electronic Product Generator exemption from universal waste requirements for CRTs. Electronic Product Generators must store their waste CRTs in a manner that prevents breakage until they can be brought to a collection/recycling facility or household hazardous waste collection. CRTs can never be disposed of or discarded in the trash.

Conditionally Exempt Small Quantity Universal Waste Generators: are businesses who, in any calendar month, generate less than:
- 100 kilograms (220 pounds) of RCRA hazardous waste, and
- 1 kilogram (2.2 pounds) of acutely hazardous RCRA waste, and
- 30 universal waste lamps, and
- 20 pounds of universal waste batteries.

For this exemption to apply, the total RCRA hazardous waste plus universal waste can not exceed 100 kilograms (220 pounds), nor can exceed 1 kilogram (2.2 pounds) of acutely hazardous RCRA waste. Until approximately August 2005, these exempt generators can dispose of their universal waste lamps and universal waste batteries as a non-hazardous waste within the following quantity limits:
- no more than 30 lamps disposed per calendar month,
- no more than 20 pounds of batteries disposed per calendar month, and
- no thermostats at all.

Spill residue consisting of only broken, damaged or leaking universal wastes must be managed as a universal waste (packaged, labeled, as universal waste etc.). Mixed universal and hazardous residues may need

to be managed as a hazardous waste (unless characterized as non-hazardous).

Laboratory Waste (HSC Section 25200.3.1). California legislation passed in 1998 allows laboratories to treat lab wastes on site (e.g. in the lab) without the need to obtain a tiered permit. HSC Section 25200.3.1 contains specific requirements and limitations.

Closure Plans and Corrective Actions

A facility that is regulated under the Tiered Permit program should have a written closure plan describing how the waste treatment or storage area will be closed and cleaned whenever operations cease. For instance, a small business may want to relocate or the owner may want to get out of the business or stop treating waste. The facility owner/operator has the responsibility of cleaning up the waste handling portions of the facility. The closure plan should include:

- Preparations for a site investigation or environmental audit;
- Chemical inventories that can not be returned to the supplier might have to be managed as a hazardous waste;
- The area(s) and equipment used to handle and/or treat hazardous waste may require decontamination; and
- Provide financial assurances to ensure proper clean up of the facility if contamination is found.

The EPA or DTSC may also order a facility to undertake a 'Corrective Action' to clean up contaminated property due to short term or long term substance releases.

The corrective action requirements are separate from the CERCLA (Superfund) program. However, the cost and liability of corrective actions can be as expensive as a CERCLA responsible party costs and liabilities. Therefore, it is important that a facility properly handles and stores its hazardous materials and wastes to avoid corrective action.

NOTES

CHAPTER SUMMARY

- *U.S. DOT regulations (49 CFR 171 et seq.) establish specific requirements for packaging, marking, labeling and documenting hazardous waste shipments.*
- *A Uniform Hazardous Waste Manifest must be used for hazardous waste shipments.*
- *There are several exemptions from manifesting requirements - usually for very small quantities transported by the generator between certain locations all owned/operated by the same generator.*
- *U.S. DOT requires specific training for all persons completing or signing a Manifest, affixing DOT labels to containers or loading/unloading transportation vehicles.*
- *The generator is responsible for the accuracy and completeness of the Manifest and can incur fines if it is not correctly completed.*
- *Generators are responsible for their hazardous waste until it is properly treated or disposed, and may be potentially liable in the future - even after proper treatment and disposal.*
- *Manifest requirements may vary depending upon the waste and whether the destination is out-of-state.*
- *The generator is responsible for contracting with properly licensed and permitted hazardous waste haulers and treatment, storage and disposal facilities.*
- *The Modified Manifesting procedure (Milk Run) can be used for specific types of non-RCRA recyclable wastes or certaingenerators.*
- *Federal and California regulations establish restrictions and treatment standards on the land disposal of hazardous wastes - including notification and certification requirements.*

CHAPTER 6

SHIPPING AND MANIFESTING

Preparing Your Waste For Shipment

Unless covered under a specific exemption (explained later in this chapter), all hazardous waste being shipped over public roads and/or being shipped between facilities/ locations with different EPA ID Numbers (regardless of similar ownership) must be accompanied by a Uniform Hazardous Waste Manifest and be transported by a DTSC-registered hazardous waste hauler/transporter.

Both hazardous waste regulations and Federal hazardous material transportation regulations strictly regulate the transportation of hazardous wastes over public roads from the generator's facility to a hazardous waste Treatment, Storage and Disposal Facility (TSDF). The U.S. Department of Transportation (DOT) regulations at 49 CFR 171 et seq. contain very specific and detailed requirements for:

- Using U.S. DOT approved or authorized containers and packaging;
- Labeling containers with the appropriate hazard classification label(s);
- Marking the container with the proper U.S. DOT shipping name, hazard class and transportation identification number (for hazardous wastes, this information should be marked on the hazardous waste label where indicated);
- Using shipping papers (Uniform Hazardous Waste Manifest) completed with the proper U.S. DOT shipping name, hazard class and transportation identification number;
- Shipper registration. Per 49 CFR 107.601 - 107.620, certain offerors and transporters of hazardous materials, including hazardous waste, are required to file an annual registration statement with the U.S. Department of Transportation and to pay a fee. See http:// hazmat.dot.gov/register.htm for additional information and forms.
- Loading and securing containers to prevent movement during shipment; and
- Training of personnel (called 'Hazmat Employees' by U.S. DOT) who package or specify proper packaging for hazardous wastes, label or mark containers for transportation, complete or sign the Manifest, or supervise the loading or unloading of hazardous wastes on vehicles.

The specific training requirements are found in 49 CFR 171.700 - 704. This training is sometimes referred to as HM-181, HM126F or HM-215 Training. US DOT offers periodic hazardous materials training classes, and low- and no-cost self training programs on line or on CD-ROM. Additional information on training requirements and resources can also be found at U.S. DOT's web site at http://hazmat.dot.gov.

Marking and Identifying Wastes for Shipment

All hazardous waste must be named according to the proper shipping name provided by the U.S. DOT. The U.S. DOT proper shipping name is a specific name for each chemical, chemical family or type of hazard. Each U.S. DOT proper shipping name has a hazard class and identification number assigned. This name, hazard class and number are used on the Manifest, container label(s) and placards (warning signs) on the truck that hauls the hazardous waste.

The U.S. DOT hazardous waste proper shipping names, hazardous classes, and identification numbers can be found in 49 CFR part 172.101 "Hazardous Materials Table."

Hazard Class/Warning Labels

The waste container must also display the proper 4" x 4" diamond shaped U.S. DOT warning hazard class labels and labels for the following hazards:

- Explosives A
- Explosives B
- Explosives C
- Blasting Agent
- Poison Gas
- Flammable Gas
- Non-Flammable Gas
- Corrosive
- Flammable Liquid
- Flammable Solid
- Dangerous When Wet
- Oxidizer
- Organic Peroxide
- Poison
- Irritant
- Radioactive I, II, or III
- Miscellaneous

These hazard class labels are only required when the container is being transported over the road. However, because they can provide emergency responders with basic hazard information during an emergency, it is a good idea to affix these labels on hazardous waste containers while you are accumulating the waste in the generating areas as well. These labels can be ordered from the same label suppliers listed in Chapter 5 of this Guide.

Selecting a Waste Hauler and TSDF

Before your waste can be shipped to a Treatment, Storage and Disposal

Facility (TSDF), a DTSC-registered hazardous waste hauler equipped to handle your wastes must be selected. A list of currently registered haulers may be obtained from DTSC. A list of permitted TSD facilities can also be obtained from DTSC or whichever state the facility is located. However, the fact that a waste hauler or TSDF holds a current license, registration or permit is not a guarantee of quality, ongoing regulatory compliance or liability protection. A discussion of selecting a quality firm is contained in Chapter 3 of this guide.

Exemptions for Transportation Without Using a Registered Hauler or Manifest

In some very limited circumstances, a generator may transport hazardous wastes without using a registered waste hauler or use of the manifest. However, in all cases, U DOT hazardous materials transportation requirements still apply..

- On-site transportation. As explained in the Glossary of this Guide, an 'on-site' [generator] facility may consist of several buildings on one 'contiguous' or single piece of property. However, a generator facility may also consist of buildings separated by public roads. As long as the waste is being transported from locations covered under the same EPA ID number, and directly crosses the separating road (travels across, not along the road) neither a registered waste hauler nor a Manifest is required.
- Small Quantity Exemption. Generators may transport up to 50 pounds of solid or 5 gallons of liquid hazardous waste (in separate 1-gallon containers) to a permitted TSD facility or a L.A. County Fire Department-approved household hazardous waste collection center, if simple requirements are met (HSC Section 25163(c)).
- Remote Site Consolidation. A generator may consolidate non-RCRA hazardous wastes at the generator's principal place of business as long as the waste was generated at a 'remote site' and meets certain transportation, volume (275 gallons or 2,500 pounds) and recordkeeping requirements. The specific definition of 'remote site' and requirements are specified in HSC Section 25110, 25121.2 and 25163.3.
- Used Oil from Maintenance. Persons generating used oil during maintenance operations may transfer up to 55 gallons from its point of generation to the maintenance person's place of business if the business location is not a residence, the reason for transporting it to that location is to consolidate the used oil in a tank or container, and the used oil is to be recycled at an authorized off-site hazardous waste facility after consolidation.
- Samples of Hazardous Waste Sent to Laboratories. Samples of actual or suspected hazardous wastes may be sent to a laboratory for analysis without using a Manifest or registered waste hauler. The samples must still be shipped in full compliance with U.S. DOT hazardous material transportation requirements, however, and only limited volumes (e.g. 1 liter or less) may be shipped.

Completing the California Uniform Hazardous Waste

Manifest

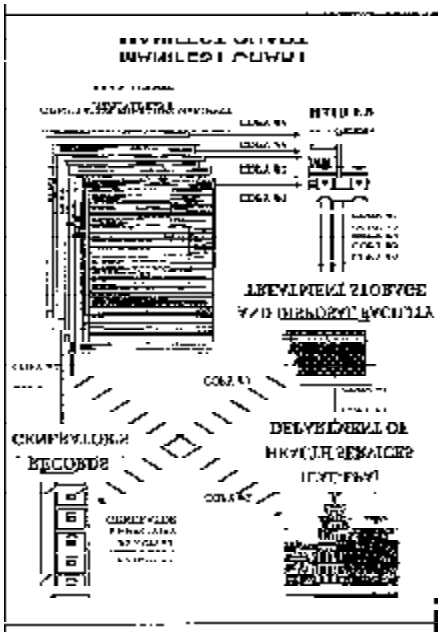
Every generator (except those described above) that ships their hazardous waste is required to complete a "California Uniform Hazardous Waste Manifest" (Manifest), which also fulfills the U.S. DOT requirement for shipping papers to accompany shipments of hazardous materials. Before you contact a hauler, prepare a list of your hazardous wastes and the approximate quantity to be shipped. Once a hauler has been selected, a hazardous waste manifest must be prepared.

The California Uniform Hazardous Waste Manifest system or processing procedure involves a six-part manifest form. Persons who generate hazardous waste for offsite disposal (except as exempted above are required to use a manifest and are "generators." Persons who operate a hazardous waste treatment, storage, disposal or recycling facility are defined as "facility owners" or "facility operators." The Department of Toxic Substances Control (DTSC) receives two copies of each manifest set: 1) A generator copy; 2) and a facility copy. Hazardous waste shipments are tracked via the manifest from the point of generation to the point of disposal, cradle to grave tracking. All parties involved in the manifest system (generators, transporters and TSD facilities) must sign the manifest.

<u>Manifest Exemptions</u>

In California, there are some exemptions from using a Manifest - primarily designed to promote recycling and assist small businesses:

- Small quantity exemption shipments (described above) do not require a Manifest, but must still be shipped in full compliance with U.S. DOT hazardous material transportation requirements;
- Recycling service firms that pick up specific non-RCRA wastes from several generators for recycling may use a 'milk run manifest'. See the section on milk run manifesting later in this chapter.;
- Waste oils picked up for recycling as long as the waste hauler is registered and uses a 'milk run manifest'; and
- Consolidation site wastes as described above.



<u>The Manifest</u>

In general, the manifest identifies:

- the name of the generator;
- the nature and amount of waste that is being transported off-site;
- the name of the transporter; and
- the waste's destination (TSDF).

Manifests are required to be completed before every shipment of hazardous waste. A copy must be submitted within 30 days of transport to DTSC by the generator.

The Manifest is essential for the generator's records. The generator's copy of the manifest can be used to protect the business from future liability. Once the shipment of hazardous wastes arrives at its intended destination, a signed "acknowledgment copy" is returned to your company. If the acknowledgment copy is not received within 35 days of the shipment date, you must contact the hauler and TSDF for corrective action. If the copy is not received within the next ten days, you must file an 'Exception Report' with DTSC - stating what actions you took to

determine the fate of your waste and the TSDF acknowledgment copy, along with a photocopy of your copy of the Manifest. Exception reports must be sent to:

Department of Toxic Substances Control
Manifest Exception Report
P.O. Box 3000
Sacramento, CA 95812
The manifest must be kept for at least three years as a legal record to prove that you, the generator, complied with the regulations and the waste was shipped properly.

Due to the importance of the hazardous waste manifest, the requirements for its proper completion are very strict. Non-compliance may result in the inability to ship the wastes, as well as fines and other penalties.

As a business within California, you must only use the current version of the revised Manifest (DTSC 8022A). California Manifests can be obtained from the following agency:

Department of General Services
Documents & Publications Unit
P.O. Box 1015
North Highlands, CA 95660
(916) 574-2200

As DTSC charges a fee for each manifest used, keep good track of all manifests ordered.

For California businesses shipping to out-of-state locations for treatment or disposal, please consult with that state's authorities and transporters. If the receiving 'consignment' or 'destination' state requires it own version of the Manifest, generators must use that state's Manifest.

As the generator of hazardous waste, it is your responsibility to accurately complete the Manifest. Assistance for completing the form may be obtained from many sources such as:

- DTSC
- L.A. County Fire Department, Health Hazardous Materials Division
- Trade Associations
- Consultants
- Destination TSDFs
- Waste Haulers

Regardless of the source of the assistance, the generator still retains all responsibility and liability for proper Manifest completion.

To address questions regarding the proper procedures to be followed when an incorrectly/improperly manifested waste load is fully or partially rejected by the TSDF (or for any other TSDF waste load rejection reason), DTSC is finalizing a fact sheet on handling (the return of) rejected hazardous waste loads. When completed, the fact sheet will be available from DTSC.

Types of Manifesting

In California, there are two ways use the manifest, although only the one manifest form is used – 'typical' manifesting, and 'modified' manifesting. Typical manifesting is discussed below; modified manifesting is discussed following the line-by-line manifest completion instructions.

Typical Manifesting

When manifesting in the typical manner, which may be used for any hazardous waste, the "generator" portion of a manifest contains information about the person (or company) that actually produced the waste. It is important to note that when you (the generator) sign the manifest, you are certifying that the information on the manifest is correct, and that the identification, labeling and packaging is proper and correct. Be sure to closely check manifests that are completed by the transporter for errors and omissions (remember, the generator/signer is responsible). When the transporter comes to pick up the waste, the driver will sign the manifest in Box 17 and give you, the generator, two copies, a blue (copy 2) and a yellow (copy 4). The generator must send the blue copy to DTSC within 30 days of shipping the waste, and retain the yellow copy for their records for three years. The remaining four pages of the manifest go with the transporter and the waste. Copy 4, which has been signed by only the generator and the driver, must be retained until the generator receives back copy 3 (another yellow copy) from the treatment, storage or disposal facility, now signed by a representative of the facility to which the waste was sent. After the generator receives copy 3, the generator should attach copy 3 to copy 4 and note any discrepancies between the two copies. Comparison for discrepancies is important; there have been instances of transporters filling in empty lines on the manifest with additional waste from other generators. The generator is required to retain copy 3 for at least three years, though some recommend that the manifests be kept indefinitely.

Line-by-Line Instructions for Generators

The following section is a line-byline instruction to complete this document. Instructions are also printed on the back of all California Manifests. For every error, DTSC charges a $20.00 reprocessing fee, so make sure your information is accurate. (See example Manifest). DOT and the California Highway Patrol can levy significant fines (in the thousands of dollars) for hazardous materials and waste transportation and shipping paper violations.

Item 1. Generator's U.S. EPA ID Number and Manifest Document Number: Enter the generator's 12-digit EPA identification number and in the space to the right of this line, enter a unique five-digit number of your choice.

Item 2. Page 1 of _: Enter the total number of pages used to complete this Manifest plus the number of Manifest Continuation Sheets, if any.

Item 3. Generator's Name and Mailing Address: Enter the name and mailing address of the generator. The address must be the location that will manage the returned Manifest forms.

Item 4. Generator's Phone Number: Enter a telephone number where an authorized representative of the generator may be reached in the event of questions or an emergency.

Item 5. Transporter-1, Company Name: Enter the company name of the first transporter who will transport the waste.

Item 6. U.S. EPA ID Number: Enter the 12-digit EPA identification number of the first transporter identified in Item 5. Do not use a transporter that does not have an EPA number.

Item 7. Transporter-2, Company Name: If applicable, enter the company name of the second transporter who will transport the waste. If more than two transporters are used to transport the waste, use a Continuation Sheet(s) and list the transporters in the order they will be transporting the waste.

Item 8. U.S. EPA ID Number: Enter the 12-digit EPA identification number of the transporter identified in item 7.

Item 9. Designated Facility Name and Site Address: Enter the company name and site address of the facility designated to receive the waste listed on this Manifest. The address must be the facility site address, which may differ from the company mailing address.

Item 10. U.S. EPA ID Number: Enter the 12-digit EPA identification number of the designated facility identified in item 9.

Item 11. U.S. DOT Description: Enter the U.S. DOT Proper Shipping Name, Hazard Class, and ID Number (UN/NA) for each waste as identified in 49 CFR 172.101 Hazardous Materials Table. For non-RCRA wastes which are not U.S. DOT hazardous materials, put "Non-RCRA Hazardous Waste Solid" or "Non-RCRA Hazardous Waste Liquid"' for solid or liquid waste respectively, followed by a short description of the waste (for example, `Used Oil').

Item 12. Containers (No. and Type): Enter the number of containers for each waste and the appropriate abbreviation of the container. These abbreviations can be found on the back of page 6 of the manifest.

Item 13. Total Quantity: Enter the total quantity of waste described on each line. If the container is to be disposed with the wastes, you must include its weight with the total.

Item 14. Unit (Wt./Vol.): Enter the appropriate abbreviation for the unit of measure. These abbreviations can be found on the back of the manifest. It is best to use the actual weight of solid waste instead of volume measurements such as cubic yards. Cubic yards may be assumed to be the weight of the soil when the generator and disposal fees are assessed and therefore may substantially increase the fee. For example, a roll or bin of contaminated gloves and aprons may be measured in cubic yards and with no indication of weight on the manifest, it would be calculated as the weight of soil by default for fee purposes. NOTE: Weight and Volume must be accurate, not a rough estimate.

Item 15. Special Handling Instructions and Additional Information: Generators may use this space to indicate special transportation, treatment, storage, or disposal information. U.S. DOT requires the generator to indicate a 24-hour emergency contact telephone number for a knowledgeable person familiar with the waste be listed in Section 15, along with certain emergency response information. The waste hauler can assist with this information.
For international shipments, generators must enter in this space the point of departure (City and State) for those shipments destined for treatment, storage, or disposal outside the jurisdiction of the United States.

Item 16. Generator's Certification: The generator must read, sign, and date the certification statement. If a mode other than highway is used, the word "highway" would be stricken out and the appropriate mode (rail, water or air) inserted.

Instructions for Transporters
Item 17. Transporter # 1- Acknowledgment of Receipt of Materials: Enter the name of the person accepting the waste on behalf of the first transporter. That person must sign and date the manifest.

Item 18. Transporter # 2 - Acknowledgment of Receipt of Materials: Enter, if applicable, the name of the person accepting the waste on behalf of the second transporter. That person must sign and the date the manifest.

California Required Items
Boxes B, D, F, H, 1, and **J** are required by DTSC in addition to federal requirements.
Boxes D, F, and **H** are phone numbers. Boxes G and K are the TSD facility's responsibility to complete.

Box A: should have a pre-printed State Document Number.

Box B: If you are paying the disposal taxes due under the Health and Safety Code Section 25174 directly to the State Board of Equalization (Board), enter your Hazardous Waste Tax Account number issued by the Board for paying the taxes due under this section. This account number is a 12-character number beginning with HA or HY. Any person willfully falsifying or misusing their account number to evade or defeat the payment of the taxes may be found guilty of a felony. If you do not have an account number and are subject to these taxes, you should contact:

State Board of Equalization
(916) 739-2582

Box C: [Reserved]

Box E: [Reserved]

Box I: Enter waste category number. Select appropriate number from Table III found on the back of the manifest. Review the entire table before selecting a number. For RCRA waste(s), enter the EPA's hazardous

waste code from 40 CFR 261.30-33 or Title 22 CCR 66261.30-33 et seq. Note that the California hazardous waste codes are in the process of being revised and significantly expanded.

Box J: Enter the chemical composition/description for each waste category. List components corresponding to the waste category entered.

Also verify that the registered hauler's transport vehicle is properly placarded according to U.S. DOT regulations prior to leaving your facility.

Modified Manifesting

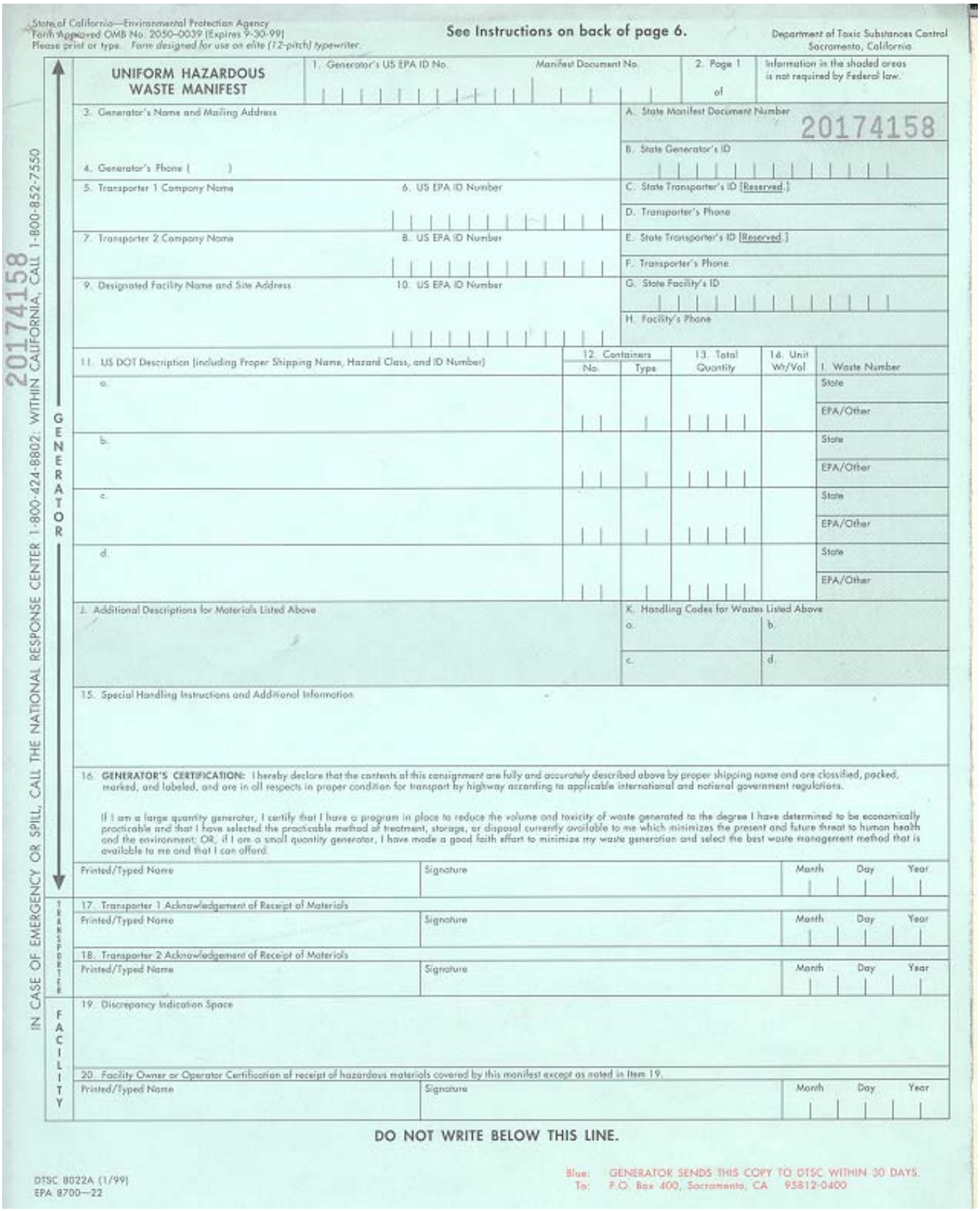
The modified manifesting procedure is when the transporter acts as generator (for certain wastes). Transporters may use the modified manifesting procedure ONLY under very limited conditions. These procedures allow transporters to collect waste from a number of generators during the course of a day without completing multiple individual manifests. This is sometimes called 'milkrun manifesting', and applies only to specific wastes that are non-RCRA wastes, or are wastes that are exempted from RCRA manifesting and transportation requirements.

The wastes allowed are:

- used oil,
- oil/water separation sludge,
- antifreeze,
- 'hot tank' sludge,
- dry-cleaning solvents,
- asbestos,
- waste printing ink from the printing industry,
- chemicals and lab packs collected from school districts, and
- automotive parts cleaning solvents including, but not limited to, aqueous solutions.

The procedure is as follows:

1. The transporter completes a separate manifest each day.
2. Before the day's collections begin, the transporter completes both the generator and transporter sections, entering the transporter's company name in both places. The driver signs and dates both sections.
3. The transporter leaves a copy of a detailed receipt for the waste with the generator. The transporter attaches legible receipts for each quantity of the allowed wastes received from a generator to the front of the manifest. In these cases, the generator will not receive a copy back from the disposal facility, because the transporter has become, in effect, the generator. Nevertheless, the generator must retain the copy of the receipt received from the transporter for at least three years.
4. Contents of the receipt are specified in the regulations. A recent requirement for specific wastes listed in HSC Section 25250.8 states that the generator must sign a statement that he or she has a program to reduce the volume and toxicity of the waste to the extent



State of California—Environmental Protection Agency
Form Approved OMB No. 2050-0039 (Expires 9-30-99)
Please print or type. Form designed for use on elite (12-pitch) typewriter.

See Instructions on back of page 6.

Department of Toxic Substances Control
Sacramento, California

20174158

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA, CALL 1-800-852-7550

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. | Manifest Document No. | 2. Page 1 of | Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address

4. Generator's Phone ( )

A. State Manifest Document Number 20174158

B. State Generator's ID

5. Transporter 1 Company Name | 6. US EPA ID Number

C. State Transporter's ID [Reserved.]

D. Transporter's Phone

7. Transporter 2 Company Name | 8. US EPA ID Number

E. State Transporter's ID [Reserved.]

F. Transporter's Phone

9. Designated Facility Name and Site Address | 10. US EPA ID Number

G. State Facility's ID

H. Facility's Phone

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste Number
a.					State / EPA/Other
b.					State / EPA/Other
c.					State / EPA/Other
d.					State / EPA/Other

J. Additional Descriptions for Materials Listed Above

K. Handling Codes for Wastes Listed Above
a. b.
c. d.

15. Special Handling Instructions and Additional Information

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

GENERATOR

Printed/Typed Name | Signature | Month Day Year

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name | Signature | Month Day Year

DO NOT WRITE BELOW THIS LINE.

DTSC 8022A (1/99)
EPA 8700—22

Blue: GENERATOR SENDS THIS COPY TO DTSC WITHIN 30 DAYS.
To: P.O. Box 400, Sacramento, CA 95812-0400

Sample Uniform Manifest – The waste code identification numbers listed on the back of the manifest will be changing in January 2002. Please check with the Department of Toxic Substances Control, Cal EPA regarding correct waste code use or check with the City of Los Angeles HTM Office. Obtain the most current edition of the multiple copy manifest form by calling (800) 618 6942 or (916) 324 062 or contacting:

Manifest Unit, California Environmental Protection Agency, Department of Toxic Substances Control
Post Office Box 806
Sacramento, California 94234-73205

economically practicable. The receipt or shipping paper provided to each generator must contain the following information:

- The generator's name, address and EPA identification number;
- The name, signature and telephone number of the generator's contact person;
- The transporter's name, address and EPA identification number;
- The proper shipping name of the waste;
- The quantity of waste taken;
- The date the waste was taken by the transporter;
- The name, address and EPA identification number of the receiving facility;
- The transporter's manifest document number; and
- In the case of school chemical collections, the drum number and contents.

5. The transporter enters the total volume of each waste on the manifest at each change of date, change of driver, or change of vehicle, and at the final delivery to the transporter's recycling, transfer, storage or disposal facility. The transporter distributes and retains manifest copies, and otherwise complies with the DTSC manifesting and transport requirements.

In the case of used oil, antifreeze, oil/water separation sludge, and parts-cleaning solvents (including aqueous solutions), the generator must enter into a written reclamation/recycling contract or agreement with the transporter. The agreement must state:

- The type of waste and frequency of shipment is specified in the contract/agreement,
- The vehicle used to transport the waste to the recycling facility and to deliver regenerated material back to the generator is owned and operated by the recycling facility, and
- The transporter agrees that they will submit a confirmation to the generator that the hazardous waste was transported to an authorized hazardous waste treatment facility for appropriate treatment

The generator must keep copies of the reclamation agreement/contract for three years after the agreement/contract is terminated.

Recycling Shipments

If a hazardous waste is being sent off-site for recycling and is not excluded from classification as a waste under California's recycling laws, then a registered hazardous waste hauler using a Manifest must transport the waste.

Out-Of-State Shipments

For shipments of hazardous waste to other states, a Manifest must still be used, but a few special requirements must be met, as follows:

Which Manifest to Use:

- For RCRA hazardous waste shipments and non-RCRA hazardous waste shipments which are also regulated as hazardous waste in the receiving (consignment) state: Most receiving states provide and/or require the use of their own version of the manifest. If so, that state's manifest must be used.

- For non-RCRA hazardous waste which are not regulated as hazardous waste in the receiving state: The California Uniform Hazardous Waste Manifest must be used, even if the material is not classified as hazardous waste by the receiving state. In this case, the DTSC does not require the receiving facility to have a permit because the facility is deemed "authorized" to receive that waste stream since the receiving state does not regulate it.

Return of Manifest Copies: A generator shipping RCRA or non-RCRA waste off site, within 30 days, must send the DTSC a copy of the Manifest which has been signed by the generator and the initial transporter.
In addition, if the waste is to be sent out of state, the generator must, within 30 days of initial shipment, send DTSC a copy of the Manifest signed by all transporters and the out-of-state facility operator. This means the generator should make prior arrangements with the out-of-state facility to return this copy, even if the waste is non-RCRA and not regulated in that state. If the waste is regulated under RCRA, the facility is already required by federal regulations to return a copy of the Manifest to the generator.

As noted previously, in the event the generator has not received a copy of the Manifest from the designated facility within 45 days of the initial shipment date, the generator must submit an Exception Report to DTSC, as specified in Tide 22 CCR, Section 66262.42.

Land Disposal Restrictions (LDR)

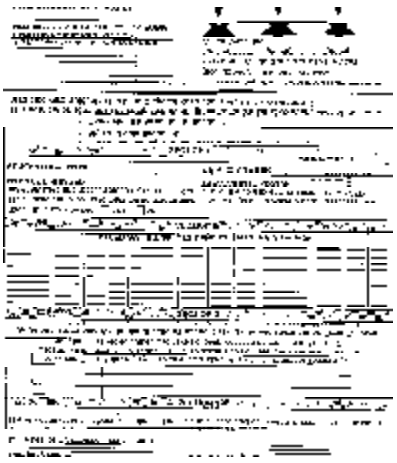
Federal and state regulations establish treatment standards for certain hazardous waste before it can be disposed of in land disposal facilities (such as landfills). Hazardous wastes restricted in this manner from land disposal are called 'restricted' wastes. U.S. EPA has classified the vast majority of RCRA hazardous wastes as 'land disposal restricted' wastes.

DTSC has also listed a range of non-RCRA hazardous wastes as being restricted; however, 1996/7 legislation repealed all but the following five non-RCRA restricted waste categories:

- Non-RCRA aqueous metal containing waste
- Automobile shredder waste
- Hazardous waste foundry sand
- Non-RCRA metal containing ashes
- Asbestos containing waste

Due to the manner by which many commercial waste recycling facilities manage the residues from treating/recycling RCRA wastes, many RCRA wastes sent by generators to recycling facilities are also regulated under the land disposal treatment regulations.

Under this program, U.S. EPA periodically adds RCRA hazardous wastes to the list of restricted wastes, and periodically adjusts the treatment standards for restricted wastes. While the treatment standards and methods more directly impacts TSD facilities, these facilities will pass the costs of treatment back to the waste generator.
Under the federal and state land disposal restriction program (sometimes called 'land bans'), hazardous waste generators must:



- Determine whether a waste is restricted (and therefore subject to land disposal restrictions);
- Determine the levels or concentrations of the restricted components/ constituents in the waste;
- Determine which treatment standards apply;
- Determine whether the waste must be first treated to meet the treatment standard before it is land disposed;
- If the waste does not meet treatment standards, complete and send (with the Manifest) a Land Disposal Restriction Notification Form (you are notifying the TSD facility that the waste is restricted and must be treated before ultimate land disposal). This TSDF-specific form is usually provided by the TSD facility, which can also provide assistance in completing it. Be sure to keep a photocopy with your file copy of the Manifest. The form does not have to be filed with DTSC.
- If the waste does meet treatment standards, complete and send (with the Manifest) a Land Disposal Restriction Notification/Certification Form (you are notifying the TSD facility that the waste is restricted and certifying that it already meets the treatment standard and can be directly land disposed without further treatment). This form is also usually provided by the TSD facility, which can also provide assistance in completing it. Be sure to keep a photocopy with your file copy of the Manifest. The form does not have to be filed with DTSC.

Note: If the TSD facility has a current Notification and/or Certification form on file for that particular waste, U.S. EPA does not require duplicate forms be prepared. Many TSDFs also incorporate these LDR notification/ certification forms as part of their annual hazardous waste 'approval' or 'profile' process with their generator customers.

Restricted wastes and their treatment standards are found in Title 22 CCR Section 66268.40 for RCRA wastes and Title 22 CCR Section 66268.105 for non-RCRA wastes.

DTSC periodically offers training on manifest completion and compliance. For information contact:

DTSC Regional Office at
(818) 551-2800 or
(714) 484-5300

NOTES

CHAPTER SUMMARY

- *The State of California has adopted a hazardous waste management hierarchy: source reduction/waste minimization, recycling, treatment, then disposal.*
- *SB14 requires generators that routinely produce 12,000 kilograms of hazardous waste or 12 kilograms of extremely hazardous waste per year to prepare a Source Reduction Evaluation and Review and Plan with a Hazardous Waste Management Performance Report every four years. Generators must also submit a "Summary Progress Report" to the DTSC.*
- *All hazardous waste generators must certify that they have a waste minimization program in place whenever a Uniform Hazardous Waste Manifest is completed.*
- *Recycling and reuse of hazardous waste can save money and reduce liability.*
- *Responsibility for a viable hazardous waste minimization program is up to each generator, but there are agencies and readily available/free information to help.*
- *Incentives for minimization programs are: economic, governmental, product improvement, a boost in employee morale, a positive public image and a sustainable environment.*

CHAPTER 7

HAZARDOUS WASTE MINIMIZATION

What Is Source Reduction?

Source reduction is defined in the California Hazardous Waste Source Reduction and Management Review Act of 1989 (SB 14) as any of the following:

- any action that causes a net reduction in the generation of hazardous waste.
- any action taken before the hazardous waste is generated that results in a lessening of the properties which cause it to be classified as a hazardous waste.

Source reduction limits the toxicity, hazard and/or quantity of hazardous material from the source before the waste is generated. In this way it is very different from the "end of pipe" pollution management practices of recycling, treatment and disposal. Source reduction includes all of the following:

- **Input changes**: change in raw materials or feedstocks;
- **Operational improvements**: improved site management;
- **Production process change**: the return of hazardous materials or components for reuse;
- **Product reformulation**: change of composition or specifications of end products; and
- **Administrative steps**: good housekeeping, inventory control, employee training, or source reduction policies.

What Is Hazardous Waste Minimization?

Hazardous waste minimization means the reduction, to the extent feasible, of any hazardous waste that is generated, treated, stored, or disposed of. Waste minimization includes source reduction and recycling of wastes.

Source reduction and waste minimization effectively reduce the amount of hazardous waste sent to disposal and incineration facilities. It can also reduce either the volume, toxicity or other hazard of hazardous waste generated.

Unlike many waste treatment methods, waste minimization can be practiced at several stages in most industrial processes. Like all innovative solutions to waste management problems, waste minimization

requires careful planning, open and frequent communication with all employees, creative problem solving, changes in attitude, sometimes capital investment, and most important, real commitment.

The pay-offs for this commitment, however, can be great:

- Waste minimization can save money - often substantial amounts - through more efficient use of valuable resources and reduced waste treatment and disposal costs.
- Waste minimization also can reduce a generator's hazardous waste-related financial liabilities.
- Taking the initiative to reduce hazardous waste is good policy.
- Waste minimization can pay off tangibly when local residents are confident that industry is making every effort to handle its waste responsibility.
- Reducing hazardous waste in the workplace lowers the risk of occupational hazard; working in a healthier and safer environment will boost employee morale.
- Improving workplace conditions can raise the productivity of your employees.
- Finally, the less waste generated, the lower the potential for negative environmental effects.

Hazardous Waste Minimization Success Story

One of the goals of industry is efficiency. By reducing wastes and streamlining processes through source reduction and recycling, many companies have been successful at waste minimization. One such company is American Etching and Manufacturing Company, a California-based chemical milling and plating facility. The company produces precision thin gauge metal parts through an "etching" process. In 1985, the company produced 803.6 tons of hazardous waste, of which 248.7 tons were landfilled, with the remainder recycled. It was at this time that the owner of the company became committed to developing a comprehensive, environmental program.

Some of the company's program goals included:

- *Focusing of efforts on source reduction, resource recovery, material*
- *Formalizing efforts by developing a department of environmental compliance.*
- *Emphasizing human resources as the key to pollution prevention.*

In 1988, the company produced 683.8 tons of hazardous waste, of which 134.2 tons were landfill and the remainder recycled. In late 1989, the company started to realize the benefits of waste minimization and commitment turned to a full-scale effort. In 1990, the company reduced its hazardous waste generation to 393.3 tons, with only 52.8 tons being landfilled, and the remainder recycled. As of June 1991, and with the help of new program and developments, the company has become a "100% recycler," resulting in a 100% reduction in waste headed for the landfill.

To date, the economic benefits of the program have resulted in savings of several hundreds of thousands of dollars. The company feels that intangibles such as worker safety, future liability, community good standing, reduced process toxicity and reduced future regulatory costs shall yield them innumerable cost savings. Most importantly, their waste minimization efforts have placed them as leaders, guiding industry into the environmentally aware 1990's.

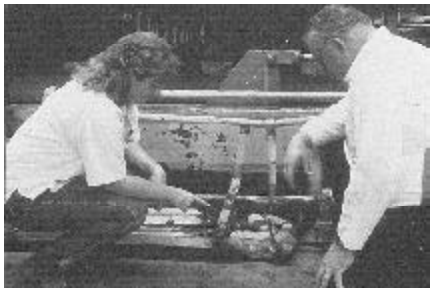
More positive effects of waste minimization are explained in more detail later in this chapter.

Regulatory Support For Hazardous Waste Minimization

The following is a description of the legislation and regulatory requirements for proper hazardous waste minimization.

U.S. EPA Hazardous Waste Minimization Certification

The U.S. EPA issued guidance to hazardous waste generators on the elements of a waste minimization program (Federal Register May 28, 1993). These elements include:



- Top management support
- Characterization of waste generation and waste management costs
- Periodic waste minimization assessments
- Encouragement of technology transfer
- Program implementation and evaluation

EPA's guidance describes each of these elements in detail.

Manifests

The U.S. EPA requires the generator signing the Manifest to certify that:

"If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable ... or, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation..."

California Hazardous Waste Source Reduction and Management Review Act (Senate Bill 14)

Passed in 1989, SB 14 is the first piece of legislation in the State of California to require that hazardous waste generators take a serious look at source reduction as the preferred method of managing waste. The goal was to reduce the generation of hazardous waste in California by 5% per year to the year 2000.

Generators covered under SB 14 are those who routinely generate 12,000 kilograms (26,400 pounds or 13 tons) of hazardous waste or 12 kilograms (26 pounds) of extremely hazardous waste during a "plan" year at a single site. Generators generating over 3,100 gallons of aqueous hazardous waste entering a pretreatment unit prior to sewer discharge are also included.

Because SB14 requirements are on a four year cycle, the next 'Plan Year' is 2002. If you generate more than these amounts in 2002, you will fall under SB14 and must prepare the below described reports/documents by September 2003 (the 'reporting year').

Requirements Under SB 14

Every four years, generators are required to prepare three documents. The first is a Source Reduction Evaluation Review and Plan (the Plan). The Plan must identify all major hazardous waste streams at the generator site. For each identified stream greater than 5% of the total waste generated, the generator must evaluate any and all potentially viable source reduction approaches, and implement those the generator has determined are feasible. A timetable for implementation must be included, and a technical and management representative of the facility must certify the Plan. The Plan is intended to cover activities to be taken during the following four-year period.

The second document is a Hazardous Waste Management Performance Report (the Report). The Report assesses the effectiveness of the hazardous waste management procedures previously implemented by the generator, including recycling and treatment activities.

The third document is the "Summary Progress Report," created by AB 1089 of 1997. Unlike the Plan and Report, which must be maintained onsite, the Summary Progress Report must be submitted to DTSC every four years.

Both the Plan and Report must be certified by a registered professional engineer, a registered environmental assessor, or a person familiar with the processes that generated the waste as well as, the owner (or an authorized representative) responsible for the processes/operations of the site.

What's In A Plan?

- Name and address of site
- Description of site & business activities
- Quantity of hazardous waste generated
- Processes, operations & block diagrams
- Evaluation of source reduction options
- Implementation schedule
- Certifications

What's In A Report?

- Name and address of site
- Description of current waste management practices
- Quantity of hazardous waste managed both on-site and off-site
- Assessment of implemented measures

What's In a Summary Progress Report?

- Data on source reduction accomplishments
- Information on projected source reduction projects

SB14 guidance documents and additional documents and resources are available from DTSC a the address below or on-line at http://www.dtsc.ca.gov/sppt/pptd/pp/.

Small Businesses and the Source Reduction Compliance Checklist

If you are a "small business" (but not necessarily a small quantity generator), you have the option of completing a 'Source Reduction Compliance Checklist' instead of a full Plan. The Checklist is a simple, understandable way for smaller businesses to comply with the requirements of the source reduction law in an inexpensive, convenient manner. There are several types of Checklists - a generic one and many industry-specific ones. The Checklists must still contain an implementation schedule and certifications.

The Checklists can be obtained from:

DTSC
Office of Pollution Prevention and Technology Development
P.O. Box 806
Sacramento, CA 95812-0806
(916) 322-3670

What Happens To The Plan And Report?
Plans and Reports are not required to be submitted to any agency, but must be made available to agencies and the public upon request. However, the Summary Progress Report is submitted to the DTSC.

Every two years, the DTSC requests and reviews selected Plans and Reports from various types of industries to ensure that the generators have properly prepared them. The agency also uses non-proprietary information from these reports to enhance source reduction activities across the state. Except for the Summary Progress Report, the generator is otherwise not required to submit these documents. This review will also determine whether a generator has implemented the source reduction measures it designated as feasible in its Plan. The results of these reviews can be obtained from DTSC's web site (see Chapter 1).

The L.A. County Fire Department, Health Hazardous Materials Division will also usually request to review your Plan and Report during hazardous waste inspections.

Four Year Numerical Goals
Generators must include a specific, four-year numerical goal for reducing the generation of hazardous waste streams addressed in their Source

Reduction Checklist or Plan.

The Summary Progress Report
AB 1089 amended SB14 in 1997. It deleted the Progress Reports requirements and added the Summary Progress Report.

Some hazardous waste streams are exempt from SB14 and are listed below. AB 1089 also added laboratory research waste to this list, and clarified the "automotive" fluids exemption.

- Automotive fluids (including waste oil)
- Lead acid batteries
- Household hazardous wastes, wastes from household collection events, and wastes separated by county agricultural commissioners
- Spent munitions and ordnance
- Decommissioned utlitiy poles
- Waste from site cleanup and mitigation activities, including remedial investigations
- Certifications
- Samples and evidence from enforcement actions
- Asbestos
- PCBs
- Formation fluids and solids from oil, gas and geothermal exploration and field development
- Demolition waste/major renovation waste
- Waste generated from emergency response actions
- Medical waste

For further information regarding the requirements of SB 14 as well as those waste streams that are exempt from reporting, contact:

DTSC
Office of Pollution Prevention and Technology Development
P.O. Box 806
Sacramento, CA 95812-0806
(916) 322-3670

DTSC Regional Offices:
(818) 551-2800 or
(714) 484-5300

Waste Minimization Approaches

Reduction and minimization of wastes are inevitably site and plant-specific. But, a number of generic approaches and techniques have been used successfully to reduce many kinds of hazardous wastes.

Inventory Management & Improved Operations

- Inventory and trace all raw materials;
- Purchase non-toxic production materials;
- Implement employee training and management feedback;
- Encourage and implement employee suggestions;

- Form waste minimization teams or groups to brainstorm ideas;
- Improve materials receiving, storage and handling practices; and
- Include waste minimization in the company's overall quality improvement program.

Modification of Equipment

- Install equipment that produces minimal or no waste;
- Modify equipment to enhance recovery or recycling options;
- Redesign equipment or production lines to produce less waste;
- Improve operating efficiency of equipment; and
- Maintain a strict preventive maintenance program.

Production Process Changes

- Substitute non-hazardous for hazardous raw materials;
- Segregate wastes by type for recovery;
- Eliminate sources of leaks or spills;
- Separate hazardous from non-hazardous wastes;
- Redesign end products to be less hazardous;
- Optimize reactions and raw material use;

Recycling and Reuse

- Install closed-loop systems;
- Recycle on-site for reuse;
- Recycle off-site for reuse; and
- Exchange wastes.

Many of these techniques involve source reduction, which is the preferred option on the DTSC's hierarchy of waste management. Others deal with on- and off-site recycling.

What If I Can't Use the Preferred Method?

In general, source reduction is preferred over recycling and other treatment options because it avoids waste generation and management liability. On-site recycling has a higher priority than off-site recycling because reducing transportation, storage, and other handling of hazardous waste reduces the risks to health and the environment. Treatment is the second least desirable option of waste management-second only to land disposal.

Recycling

Recycling is the use, reuse or reclamation of waste after it has been generated. Through recycling and reuse, hazardous "waste" is routed into a production process rather than being released to the environment as a waste. Under some conditions, recycling/reuse may be considered to be source reduction. For example, according SB 14, "the return of materials or their components, for reuse within the existing process or operations, so as to reduce, avoid, or eliminate the generation of hazardous waste", is considered source reduction. (HSC Section 25143.2 (b) provides for an exclusion from the definition of hazardous waste.)

Reclamation
Reclamation is usually considered to be part of the recycling because it recovers raw material for reuse. However, keep in mind that the processes used to reclaim useful materials from waste often generate hazardous waste of their own.

Treatment
Once all source reduction, reclamation and recycling options have been exhausted, the treatment process may be available. Treatment is action taken to render the remaining waste nonhazardous, less hazardous, or less mobile in the environment before disposal.

Responsibility For A Waste Minimization Program

Existing law leaves the method of measuring waste minimization up to the generator, with DTSC and Los Angeles Fire Department merely verifying that the required procedures have been followed. In practice, waste minimization opportunities are limited only by the ingenuity of the generator. The best way to determine how these general approaches fit a particular company's need is to conduct a waste minimization assessment, looking at bottom line returns, and selecting and implementing the most feasible strategy.

For those generators not covered by SB 14, other regulations may require waste minimization programs. These regulations include Tiered Permitting, waste minimization certifications, manifests, and the U.S. EPA Biennial Reports - waste minimization section. Also, facilities that are required to submit U.S. EPA SARA Tittle III, Community Right-to-Know forms for the Toxic Release Inventory (see Chapter 3 of this Guide) must provide waste minimization data under the Pollution Prevention Act of 1990.

Where to Get Help

Questions regarding hazardous waste minimization and available publications should be directed to:

City of Los Angeles
Environmental Affairs Department, MS 177
200 North Spring Street, 19th Floor
Los Angeles, CA 90012
Environmental Hotline: 1 (800) 439-4666 or (213) 978-0891
http://www.lacity.org/EAD

Department of Toxic Substances Control
Office of Pollution Prevention and Technology Development
P.O. Box 806
Sacramento, CA 95812-0806
(916) 322-3670

Waste minimization assistance, guidance and publications can also be obtained at the following DTSC and U.S. EPA web sites:

DTSC's list of pollution prevention publications (many available for direct downloading) are listed at this site. Also click on 'Summary of Publications' for a complete list of available free or low cost waste minimization/pollution prevention documents, guides, manuals and other information you can order.

www.dtsc.gov/sppt/ppdt/pp/

U.S. EPA's Enviroene (Pollution Prevention) web site:
http://es.epa.gov/

Incentives

Incentives for industry participation in waste minimization include:

Economic Incentives
Economic incentives reward those who reduce their wastes. These incentives can be either actual savings, which can be clearly quantified on a balance sheet, or estimated savings, which can be quantified based on avoiding potential future waste management costs. In either event, the overall economic incentive is the potential for increased competitive advantage through lower operating and production costs.

Such incentives can be grouped into three basic categories:

- Reduced wastes management costs
- Improved operations
- Reduced liability risks

Reduced Waste Management Costs
The most obvious and quantifiable economic incentive is the reduced waste management cost that results simply from having less waste to manage. Depending on the individual site and its operations, these savings might be achieved through one or more of the following:

- Lower on-site handling costs;
- Less waste storage area (hence, more available production area);
- Lower off-site transportation and disposal costs;
- Reduced compliance paperwork and record-keeping;
- Reduced waste end-tax obligations, such as the State Board of Equalization's Hazardous Substance Account. Some facilities are exempt from State Board of Equalization fees; or
- Potential increase in environmental performance ratings for bids, contracts, and subcontract reviews.

More Efficient Operating Practices
The best means of reducing waste is through preventive measures which include methods that make existing processes work more efficiently. Better operating practices, or housekeeping practices, can involve anything from finding a more efficient way of handling a particular

hazardous waste, to making fundamental changes in the way a company thinks about waste management.

As wastes are reduced, the proportion of raw materials being converted to desired end products increases. Thus, waste minimization leads directly to improved operations through yield improvements and increased production capacity.

Improving product quality can be a natural outgrowth of waste minimization evaluation. Any time a process or unit is investigated closely in a new manner, by a variety of people, opportunities emerge for improvements that might not otherwise have been discovered.

General themes include:

1. Waste Segregation: Many wastes are actually a mixture of hazardous and non-hazardous waste. Much of their content may even be water. By segregating key constituents, generators can sometimes save substantial amounts of money on disposal or find new ways of recycling.

2. Standardized Procedures: Large quantities of hazardous waste may be generated through spills, improper storage practices, inefficient production start-up or shut-down, scheduling problems, and lack of emergency procedure manuals. Better inventory control, and routine training and retraining sessions can help eliminate unnecessary waste generation and provide significant company-wide source reduction benefits.

Reduced Liability Risks

Reducing the amount or volume of wastes being handled on-site also reduces the likelihood that violations of hazardous waste laws will occur. Reducing the hazard of the wastes that are produced reduces the likelihood and potential severity of property and environmental damage should an accident occur, reducing civil or insurance liability. Reducing future liabilities and risks is, for many industries, the greatest long-term economic incentive for waste minimization.

Involvement in a hazardous waste site cleanup can be enormously costly in time, money, morale, and erosion of public trust. "Cradle-to-grave" responsibility for generated wastes can weigh heavily on the shoulders of both large and small businesses. There is little security to be found through liability insurance, since 'policies have become prohibitively expensive or unavailable for certain hazardous waste generators.

Another source of liability risk is worker exposure to hazardous materials, including wastes. Reducing the amount of hazardous materials that are handled and the toxicity of wastes can improve worker safety and morale and reduce the risk of injury-related lawsuits.

Other Incentives

Economic incentives are by themselves compelling reasons for manufacturers to reduce their wastes. However, there are additional incentives:

- Product quality improvement
- Government assistance program
- Positive public image
- Healthy environment

The quality of life, for all of us and future generations, depends on a healthy and sustainable environment. Preventing the deterioration of the environment is a responsibility shared by both producers and consumers. As a business owner/employee, a private citizen and a hazardous waste generator, you need to understand the importance of establishing a source reduction and waste management program.

For more information on incentive programs refer to Chapter 4 of this Guide or contact:

U.S. EPA
Technical and Regulatory Hotline
(800) 424-9346, or

City of Los Angeles
Environmental Affairs Department, MS 177
200 North Spring Street, 19th Floor
Los Angeles, CA 90012
(213) 978-0891

NOTES

CHAPTER SUMMARY

- *Under Cal/OSHA and DTSC regulations, employers are responsible for ensuring their employees receive (and understand) a wide range of safety-, hazard-, and emergency procedure-related training.*
- *Employees handling hazardous waste, including supervisors of those employees, must be trained in the waste management procedures, emergency equipment use and emergency procedures applicable to their job duties.*
- *Hazardous waste generators must keep detailed records of all training conducted, including information about each employees job description and waste handling duties.*
- *Workers at hazardous waste clean-up sites, permitted TSD facilities, and on hazardous materials emergency response teams require additional detailed training under the OSHA 'HAZWOPER' standards.*
- *Under the Cal/OSHA Hazard Communication Standard, every employer is responsible to train their employees about the hazards of chemicals they use or are likely to be exposed to in the workplace.*
- *Under other Cal/OSHA regulations, employees must be trained in the proper use of safety equipment.*
- *Cal/OSHA requires every employer to have an effective Injury and Illness Prevention Program, in writing, that meets the requirements of Title 8, CCR Section 3203.*
- *The Injury and Illness Prevention Program should emphasize communication of safety requirements and concerns between management and employees, training and periodic self-inspections.*

CHAPTER 8

EMPLOYEE INFORMATION AND TRAINING

What Information Is Required For Employees?

Title 22, CCR Section 66265.16 requires that all employees who handle hazardous waste must be trained annually in the hazardous waste handling and emergency procedures specific to their job duties. Supervisors of these handlers must also be trained. Cal/OSHA requires that every employer establish a training and information program for employees who may be exposed to hazardous materials in the workplace. This process is generally known as the Hazard Communication Standard. Depending upon employees' other duties and working conditions, Cal/OSHA (through the Title 8, CCR General Industry Safety Orders) requires that many other types of training be conducted. Much of this training can be either classroom-style, or on-the-job (with hands-on involvement).

Cal/OSHA also requires every employer to develop and implement an effective written Injury and Illness Prevention Program (IIPP). The IIPP should emphasize communication of safety requirements and concerns between management and employees, training and periodic self-inspections.

The best way to protect your health and safety is to know about each of the chemicals used at your facility. Some chemicals can explode or start fires. Others can cause skin rashes, breathing problems, or more serious illnesses. But if you handle hazardous chemicals and wastes carefully, following standard operating procedures, these chemicals can be handled safely.

Hazardous Waste Generator Personnel Training Requirements

As a generator, you are required to provide training in hazardous waste management for all workers who handle hazardous waste at your site. Employees who handle hazardous waste, supervise those handling hazardous waste, or plan the management of hazardous waste must successfully complete training that teaches them how to meet the generator requirements and handle emergencies. Training will reduce the potential for mistakes that might threaten human health or the environment. It should ensure that personnel are thoroughly familiar with proper and safe hazardous waste handling procedures. It should also stress their roles and responsibilities in an emergency.

Training should explain why certain tasks must be performed in a certain manner. Providing employees with a thorough explanation of why specific operations are performed as they are, and not in a seemingly easier fashion, will help to reduce the use of "short-cut" procedures that may endanger plant personnel or the surrounding population. The basic training requirements are:

- Facility personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them how to perform their duties in compliance with hazardous waste management requirements.
- The training must be conducted by a person who is familiar with the facility's Contingency Plan and is trained in hazardous waste management procedures. Training must also be provided in a language the employee understands.
- The training must be designed to ensure effective response to emergencies by familiarizing staff with emergency procedures, emergency equipment, and emergency systems, including:
  - Key parameters for automatic waste feed cut-off systems, if any are in use;
  - Communications or alarm systems;
  - Response to fire or explosions;
  - Response to spills or leaks;
  - Procedures for using, inspecting, repairing, and replacing emergency and monitoring equipment
  - Shutdown of operations (equipment, electric meter box, gas valves, etc.); and
  - Response to ground water contamination incidents

When Must Employees Be Trained?

Employees handling hazardous wastes must successfully complete required training within six months after the date of their employment, assignment to a new facility, or to a new position at the facility. Until trained, employees can not work with hazardous wastes without direct supervision.

Employees must take part in an annual refresher or annual review of their initial training. A good way to update employees' annual training is to review the last years' of weekly hazardous waste inspections (see Chapter 5 of this Guide) and note any trends, problem areas and good practices. The emergency procedures taught in the original training must be reviewed to keep personnel up-to-date with any changes in facility operations and processes or the contingency plan.

Training Documentation

In order to document employee training, you must maintain the following documents and records at the facility:

- The job title for each position at the facility that is related to hazardous waste management, and the names of the employee filling the position(s);
- A written job description for each position listed above. This description must include the required skill, education, or other qualifications as well as duties of employees assigned to the position (particularly as it relates to hazardous waste management at the

facility);
- A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position on the list developed in the first bullet above; and
- Records that document that the requirements for training or job experience have been met.

While many companies simply keep a sign-in sheet or other documentation that an employee attended a training session, you should consider also documenting that the employee understood the training provided - such as using and keeping on file a short post-training quiz which each employee must pass to be 'qualified'.

Training records on current personnel must be kept until closure of the facility. Training records on former employees must be kept for at least three years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company. These records must be kept at the facility for examination by DTSC, Cal/OSHA, or the L.A. County Fire Department upon request.

Developing a Training Program

The training program must be instructed by persons who are trained in hazardous waste management procedures and can familiarize facility personnel with the procedures applicable to their job positions. Facility personnel are only responsible for learning those procedures which are relevant to the positions in which they are employed.

Training instructors, especially those conducting formal programs, should preferably be experts in the field of hazardous waste management, since questions could arise during training that requires considerable experience and expertise. For on-the-job or performance type training programs, the instructor should be knowledgeable in the current methods of facility operation.

The following is a list of points to consider in developing and maintaining your training program:

- Make a list of employees that are "facility personnel," defined by the regulations as "all persons who work at, or oversee the operations of a hazardous waste facility, and whose actions or failure to act may result in noncompliance with the requirements of [the regulations]." This includes supervisors and non-supervisory personnel actively engaged in waste-related operations at the facility;
- Decide on the type (e.g. onsite or offsite classroom vs. on-the-job; contractor vs. in-house trainer) and length of the training needed for each of the types of positions that handle hazardous wastes. Note that although DTSC's regulations do not specify the length and type of training, other agencies, such as Cal/ OSHA do for various safety training. It is not necessary for all facility personnel to be trained by attending a formal program. One approach would be to send only your supervisory personnel to formal offsite training programs. They can acquire the appropriate training skills and then relay those skills to the remaining facility personnel by conducting more focused

on-the-job training sessions.

- Design the written training program to be specific to the various positions performed by personnel. It should parallel as realistically as possible the actual job in order that the "real world" activities are approximated as much as possible. Take into account the educational level of the employees. Make sure all facility personnel are made familiar with your facility's Contingency Plan so they will all be able to respond effectively in an emergency situation.
- Document that the instructor is a person trained in hazardous waste management and that the training given to facility personnel has enabled them to respond effectively to emergency situations related to their tasks. Include documentation that they are familiar with the contingency plan. The instructor should also be a good trainer and have credibility with your employees.
- Document that all employees have been trained within 6 months of the date of their employment or transfer and that until they are trained, they are working under supervision.
- Maintain training records for all facility personnel at the facility.

Response to Emergencies - Training

Your training program must familiarize facility personnel with emergency procedures, emergency equipment, and emergency systems which are applicable to their positions. Emergency response procedures that should be taught to selected facility personnel include:

- Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment; and
- Use of automatic waste feed cut-off systems (if present), communications or alarm systems, response to fires or explosions, response to ground water contamination incidents, and shutdown of operations.

Additionally, employees who are in charge of managing wastes must have certain knowledge which will help them perform their jobs adequately. For example, their training program might include information on the following:

- The chemical characteristics of the wastes which they are assigned to manage (e.g. reactivity and incompatibility with other types of wastes);
- Knowledge of what to do in the event of a spill or leak;
- The types of protective equipment (such as respirators or self-contained breathing equipment) or clothing to be worn;
- Proper operation of trucks, forklifts, or any other machinery to be used in waste disposal;
- Knowledge of basic first aid; and
- Who to inform in the event of an emergency.

Cal/OSHA HAZWOPER Training Requirements

Depending upon the actions facility employees take in the event of a hazardous waste or hazardous materials spill or leak, significant additional emergency response training may be required by Cal/OSHA. Under the Hazardous Waste Operations and Emergency Response (HAZWOPER) Standard (Title 8, CCR Section 5192), employees

responding to an occurrence which results, or is likely to result, in an uncontrolled release, which may cause high levels of exposure to toxic substances, or which poses danger to employees requiring immediate attention must undergo up to 24 hours of annual emergency response training.

However, responses to incidental releases of hazardous substances where the substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area, or by maintenance personnel are not considered to be emergency responses within the scope of this standard. Responses to releases of hazardous substances where there is no immediate safety or health hazard (i.e., fire, explosion, or chemical exposure) are not considered to be emergency responses requiring additional HAZWOPER training. The "immediate release area" can be the entire geographic boundary of the employee's assigned work area.

In some other situations, (e.g. the excavation and cleanup of contaminated soils), workers performing this work are also required to receive OSHA HAZWOPER training. In the case of contaminated site assessments or clean-up, a 40 hour training course is required.

Cal/OSHA's Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) in Title 8, CCR Section 5192 covers workers employed in cleanup operations at uncontrolled or agency-regulated hazardous waste sites (from a Superfund site clean-up to an underground tank removal), at facilities RCRA/DTSC permitted as waste treatment, storage, and disposal facilities (TSDF), and workers responding to emergencies involving hazardous materials (e.g. spills). This type of health and safety training does not cover the same topics required for hazardous waste handlers but is far more extensive. Training levels required under this standard are outlined below:

RCRA/DTSC-Permitted Treatment, Storage, and Disposal Facilities (Title 8, CCR, Section 5192(p)) (Note – according to Cal/OSHA, these training requirements also apply to generators treating waste under a Tiered Permit)

- **General Site Employees** need 24 hours (or equivalent) training on the health and safety aspects of their work. Each year they must also have 8 hours of refresher training.
- **Emergency Response Personnel** at the site must be additionally trained to an appropriate level of competency (see "Hazardous Materials Emergency Responders" below).

Employers also are required to develop and implement procedures for introducing effective new technologies that provide improved worker protection in hazardous waste operations. Examples include foam, absorbents, adsorbents, neutralizers, etc.

Hazardous Waste Investigation and/or Clean-Up Sites
The employer must develop a training program for all employees exposed to safety and health hazards during hazardous waste operations. Both supervisors and workers must be trained to recognize hazards and to

prevent them; to select, care for and use respirators properly as well as other types of personal protective equipment; to understand engineering controls and their use; to use proper decontamination procedures; to understand the emergency response plan, medical surveillance requirements, confined space entry procedures, spill containment program, and any appropriate work practices.

As part of the safety and health program, employers are required to develop and implement a program to inform workers (including contractors and subcontractors) performing hazardous waste operations of the level and degree of exposure they are likely to encounter. Workers also must know the names of personnel and their alternates responsible for site safety and health. The amount of instruction differs with the nature of work.

Employees at all sites must not perform any hazardous waste operations unless they have been trained to the level required to do the job. They also have to be certified by their instructor as having completed the necessary training. Employees must also have a medical screening to ensure they are physically capcable of wearing respiratory protection.

- Routine Site Employees need 40 hours of initial training on the health and safety aspects of the clean-up work. Additionally, they must have 24 hours of training in the field specific to their job duties. Each year they must also have 8 hours of refresher training.
- Routine Site Employees with minimal exposure (example: a geologist that is occasionally onsite to oversee sampling) need a minimum of 24 hours of initial training plus 8 hours in the field. Each year they must also have 8 hours of refresher training.
- Supervisors must at a minimum have the same level as the employees they supervise plus 8 hours of special supervisory training covering additional aspects of hazardous waste site management.

Employees who receive the training must be given a written certificate upon successful completion of the training. That training need not be repeated if the employee goes to work at a new job site; however, the employee must receive whatever additional training is needed to work safely at the new site.

Hazardous Materials Emergency Responders (note the low hazard/ workplace exemption discussed earlier)
Employee training requirements are defined by the nature of work (e.g., temporary emergency response personnel, firefighters, safety officers, HazMat personnel, incident commanders, etc.)

- Level 1 -- "Awareness" Level First Responder: Employees likely to witness or discover a release of hazardous materials (including hazardous waste) at their workplace are required to have sufficient training to initiate a response by isolating and denying entry and notifying the proper authorities.
- Level 2 -- "Operations" Level First Responder: This level is for employees that are expected to respond to releases in a defensive manner without trying to stop the release. They must have, at a minimum, Level I competency plus 8 hours initial or proven experience in specific other competencies.

- Level 3 -- "Technician" Level First Responder: These employees are expected to aggressively respond to stop a release of hazardous substances. They must have, at a minimum, 24 hours of Level 2 and proven experience in specific competencies.
- Level 4 -- "Specialist" Level First Responder: These employees are expected to respond with and support HazMat Level 3 employees using specific knowledge of various hazardous substances. They must have, at a minimum, 24 hours of Level 3 and proven experience in specific competencies.
- **Level 5 --"On-scene Incident Commander**: This employee assumes control of the incident scene beyond the first-responder awareness level. He/she must have 24 hours of Level I and additional competencies.

All emergency responders must annually receive refresher training sufficient to maintain or demonstrate competency.

Cal/OSHA Hazard Communication Standard

Under the Hazard Communication (HazCom) Standard, every employer is responsible to train their employees about the hazards of chemicals they use or are likely to be exposed to in the workplace. This program, including hazard communication training programs, must be complete and in writing. This program should outline the steps you are taking to communicate to your employees about hazardous chemicals they are using. The HazCom Standard (Title 8, CCR Section 5194):

- Establishes a 'worker right-to-know' program;
- Requires a written Hazard Communication program;
- Requires the use of material safety data sheets (MSDS);
- Requires the use of labels and other warnings;
- Requires a current list of chemicals be kept; and
- Requires chemical hazards and precautions be explained to employees.

As part of the above HazCom requirements, employers must:

- Maintain a HazCom training program;
- Review the program on an annual basis;
- Train all employees who come into contact with chemicals on the specific hazards, safe handling procedures, labeling requirements; and how to read and understand MSDS;
- Discuss employee protective measures;
- Discuss the use of material safety data sheets;
- Discuss labeling requirements of containers;
- Discuss trade secrets and how to obtain needed information;
- Not purchase materials without an adequate MSDS;
- Request suppliers provide all ingredients with identifiable chemical names and percentage composition;
- Provide an MSDS requested by any employee;
- Provide complete hazard information to any employee requesting additional information not listed on an MSDS;
- Maintain a current list of chemicals in use
- Make the list available to all employees during each work shift
- Ensure that employees have ready access to Material Safety Data Sheets (MSDSs)

Your employees have a right to know about the chemicals they use and the proper use of personal safety equipment to control the exposures they might receive. A good hazardous material and hazardous waste training program will inform your employees on how to handle chemicals safely and how to use personal protective equipment and should explain the necessity for their use. It must also explain the basic emergency procedures for each of the hazardous chemicals. Be sure the employees know the location of the first aid kits and that emergency phone numbers are posted near phones.

MSDSs and Labels

All chemical manufacturers or suppliers must provide a Material Safety Data Sheet (MSDS) for each hazardous chemical you use (excluding intermediary chemicals formed during the production process). This MSDS will provide the necessary information that your employees need to know on the nature of the chemicals used by your business and how to handle them.

Although there is no required standard format for MSDSs, the following information must be provided. It is usually (but not always) broken down into the following eight sections:

Section 1: Name and manufacturer of the product
Section 2: Hazardous ingredients/identity
Section 3: Physical and chemical characteristics
Section 4: Fire and explosion data
Section 5: Physical hazards (reactivity data)
Section 6: Health hazards and effects of overexposure
Section 7: Special precautions and spill/leak/fire procedures
Section 8: Special protection/personal protection equipment

Employers must maintain copies of the required Material Safety Data Sheets (MSDS) for each hazardous chemical in the workplace. It is a good idea for employers to assign an individual within their company to be responsible for maintaining records on MSDSs and to ensure that the company does, in fact, receive MSDSs and any updates from the manufacturer in a timely fashion.

Employers must ensure that MSDSs are readily accessible during each work shift to employees when they are in their work area(s). Whenever specific information is added to an MSDS, that specific information MUST be incorporated into the training program.

In addition to the information on the MSDS sheet, the employer must explain to the workers how to identify and interpret the chemical container labels. Proper precautions should always be taken to avoid a potential hazard from occurring. The employer is required to explain the information provided on the labels, such as:

- How to identify the chemical code number, chemical or trade name.
- Signal Word - telling you the degree of the hazard such as, “Caution!”, “Warning!” or “Danger!”
- Hazard Statement - telling you the major hazards you face such as, “Extremely Flammable” or “Harmful if Inhaled.”

- Precautions - what to do to avoid injury or illness such as, “avoid inhaling” or “wash thoroughly after handling.”
- Instructions in case of exposure - first aid information telling you what to do if you’re exposed to a chemical.
- Antidotes - measure that can be used by a medical layperson to counteract the effects of chemical exposure.
- Fire, Spill, Leak instructions -how to put out or control fires, clean up leaks or spills.
- Notes to Physicians - information for physicians in case someone is exposed to a chemical.
- Handling and Storage Instructions- special procedures for handling and storing chemicals.

Keep accurate records of who must be trained and who has been trained. Be prepared to provide training to new or transferred employees. Train contract or temporary employees as needed.

Cal/OSHA Injury and Illness Prevention Plan (IIPP)

In California, every employer is required by law (Labor Code Section 6400) to provide a safe and healthful workplace for his/her employees. As mandated by SB 198, Cal/OSHA requires every California employer to have an effective Injury and Illness Prevention Program in writing that must comply with Title 8 CCR, Section 3203.

The Injury and Illness Prevention Program must include:

- Management commitment/assignment of responsibilities;
- Safety communication system with employees;
- System for assuring employee compliance with safe work practices;
- Schedule inspections/evaluations systems;
- Accident investigations;
- Procedures for correcting unsafe/unhealthy conditions;
- Safety and health training and instruction; and
- Record keeping and documentation.

Cal/OSHA has developed a “Model Injury and Illness Prevention Program” for several broad industry categories. Information and assistance may be obtained from:

Cal/OSHA’s web site (IIPP model programs can be directly downloaded and then customized for your facility):

http://www.dir.ca.gov/DOSH/puborder.asp

or

Cal/OSHA Consultation Service
6150 Van Nuys Blvd, Suite 307
Van Nuys, CA 91401
(818) 901-5754

Cal/OSHA Consultation Service
10350 Heritage Park Dr., Ste. 201
Santa Fe Springs, CA 90670
(562) 944-9366

Specific Training Requirements of the General Industry Safety Orders

In addition to those discussed in this Chapter, the following are some of the other employee training requirements in the Cal/OSHA General Industry Safety Orders (Title 8, CCR). Some or all of these requirements may apply to hazardous waste generators depending upon the specific operations being performed at your facility. Please note that the following is not a complete list of Cal/OSHA regulatory or training requirements.

Emergency Action Plan - Section 3220 (e)(1)
Before implementing the emergency action plan, the employer shall designate and train a sufficient number of persons to assist in the safe and orderly emergency evacuation of employees. (See Emergency Action and Fire Prevention Plan).

Fire Prevention Plan - Section 3221 (d)(1)
The employer shall apprise employees of the fire hazards of the materials and processes to which they are exposed.

Personal Protective Equipment - Section 3380 (c)
The employer shall ensure that the employee is instructed and uses protective equipment in accordance with the manufacturer's instructions.

Medical Services and First Aid - Section 3400 (b)
In the absence of an infirmary, clinic, or hospital, in near proximity to the workplace, used for the treatment of all injured employees, a person or persons shall be adequately trained to render first aid. Training shall be equal to that of the American Red Cross or the Mining Enforcement and Safety Administration.

Agricultural Operations - First Aid Kit - Section 3439 (b)
At remote locations, provisions must be made in advance for prompt medical attention in case of serious injuries. This may be accomplished by on-the-site facilities or proper equipment for prompt transportation of the injured person to a physician or communication system for contacting a doctor or combinations of these that will avoid unnecessary delay in treatment. There shall be at least one employee for every 20 employees at any remote location with training for the administering of emergency first aid.

Hazardous Cargo - Section 3462 (b)
Before cargo handling operations begin, the employer shall ascertain whether any hazardous cargo is to be handled and determine the nature of the hazard. The employer shall inform employees of the nature of any hazard and any special precautions to be taken to prevent employee exposure, and instruct employees to notify him of leaks or spills.

Hazardous Atmospheres and Substances - Section 3463 (b)(5)(b)
Persons entering a space containing a hazardous atmosphere shall be instructed in the nature of the hazard, precautions to be taken, and the use of protective emergency equipment. Standby observers, similarly

equipped and instructed, shall continuously monitor the activity of employees within such a space. When the packaging of asbestos cargo leaks, spillage shall be cleaned up by qualified employees protected from the harmful effects of asbestos as required by Section 5208.

Accident Prevention and First Aid - Section 3464 (a)(1)
Immediate supervisors of cargo handling operations of more than five persons shall satisfactorily complete a course in Supervisory Accident Prevention Proficiency. Employees newly assigned to supervisor duties after that date shall be required to meet the provisions of this regulation within ninety (90) days of such assignment.

Chlorine Dioxide and Sodium Chlorate - Section 4419 (a)(1)
Personnel shall be instructed in the handling precautions and special work procedures when working with Chlorine Dioxide and Sodium Chlorate.

Gas Welding - Section 4799 (a)
Employees in charge of the oxygen or fuel-gas supply equipment including generators, and oxygen or fuel-gas distribution piping systems shall be instructed for this work before being left in charge. Rules and instruction covering the operation and maintenance of oxygen or fuel-gas supply equipment including generators, and oxygen or fuel-gas distribution piping systems shall be readily available.

Poisons - Section 5166 (a)
This section provides specific information regarding safe procedures and other precautions before cleaning or subsequent use or disposal of a container. The employer shall insure that these procedures and precautions are followed.

Changing and Charging Storage Batteries - Section 5185 (a)
Battery charging installations shall be located in areas designated for that purpose. Employees assigned to work with storage batteries shall be instructed in emergency procedures such as dealing with accidental acid spills.

Respiratory Protective Equipment - Section 5144 (c)
Employees shall be instructed in the need, use, sanitary care, and limitations of respiratory equipment as any employee may have the occasion to use. Respirators shall be inspected before each use and shall not be worn when conditions prevent a good gas-tight face seal. Every respirator wearer shall be instructed in how to properly fit and test respiratory equipment, how to check the face piece fit and shall be provided the opportunity to wear respiratory equipment in normal air for an adequate familiarity period, and to wear it in a test atmosphere (such as generated by smoke tubes or isoamyl acetate). Respirator equipment must also be properly stored and kept up to health and safety standards.

Asbestos - Section 5208 (n)
The employer shall institute a training program for, and assure the participation of, all employees exposed to asbestos such that medical examinations are required pursuant to section 5208(j)(1).

Carcinogens - Section 5209 (e)(5)
Each employee, prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to, the information or requirement of this regulation.

Inorganic Arsenic - Section 5214 (m)(1)
Instituted for all employees who may be exposed to inorganic arsenic above the action level without regard to respirator use or of whom there is the possibility of skin or eye irritation from inorganic arsenic. The employer shall require that those employees participate in the training program.

Lead - Section 5216 (l)
Each employer who has a workplace in which there is a potential exposure to airborne lead at any level shall inform employees of the content of Appendices A and B of this regulation. The employer shall institute a training program for and assure the participation of all employees who are subject to exposure to lead at or above the action level or for whom the possibility exists of skin or eye irritation from exposure to lead.

Employee Alarm Systems - Section 6194 (a)(5)(c)
All employees shall be made aware of means and methods of reporting emergencies. These methods may be, but are not limited to, manual puff box alarms, public address systems, radios or telephones. When telephones are used as a means of reporting an emergency, telephone numbers shall be conspicuously posted nearby. Servicing, maintenance, and testing of employee alarms shall be performed by persons trained in the design, operation and functions necessary for reliable and safe operations of the system.

Fire Protection
Section 6151 (g)(1) - Portable Fire Extinguishers
Section 6165 9f)(2)(f) - Standpipe and Hose Systems
Section 6175 (a)(10) - Fixed Entinguisher Systems

Bloodborne Pathogens - Section 5193
All employees that are potentially exposed to bloodborne pathogens such as Hepatitis B and HIV, require the development and implementation of an Exposure Control Plan. This plan includes specific training and educational requirements.

For more information, contact:

Cal/OSHA Consultation Service
6150 Van Nuys Blvd, Suite 307
Van Nuys, CA 91401
(818) 901-5754

Cal/OSHA Consultation Service
10350 Heritage Park Dr., Ste. 201
Santa Fe Springs, CA 90670
(562) 944-9366

or:

Regional Cal/OSHA field offices:

320 West 4th Street, Suite 850
Los Angeles, CA 90013
(213) 576-7451

680 Knox St., Suite 100
Torrance, CA 90502
(310) 516-3734

9459 East Slauson Avenue
Pico Rivera, CA 90660
(562) 949-7827

6150 Van Nuys Blvd., Suite 405
Van Nuys, CA 91401
(818) 901-5403

1906 West Garvey Ave So, Suite 200
West Covina, CA 91790
(626) 472-0046

or visit the following Cal/OHSA's web sites:

http://www.dir.ca.gov/DOSH/dosh1.html

NOTES

CHAPTER SUMMARY

- *Hazardous waste generators must operate their facility and handle hazardous wastes in a manner that reduces the chances for a spill, release, fire or explosion.*
- *Generators must have certain emergency equipment available (such as communications and fire extinguishers) and maintain it regularly.*
- *Cal/OSHA requires all employers to have an 'Emergency Action Plan', which describes the actions employers and employees must take to ensure employee safety in the event of fires and other emergencies.*
- *All hazardous waste generators must prepare a 'Hazardous Waste Contingency Plan' containing emergency procedures to be followed in the event of a hazardous waste spill or release.*
- *The Contingency Plan is part of the required Hazardous Materials Business Plan to be submitted to the Los Angeles City Fire Department.*
- *Certain elements of Hazardous Waste Contingency Plans required by Title 22 CCR hazardous waste regulations are not specifically required by the L.A. City Fire Department to be listed on the Business Plan, but must still be implemented in a hazardous waste emergency.*
- *The Emergency Coordinator is an employee who is either on the premises of the facility or on-call, and is responsible for coordinating the facility's emergency response procedures and has the authority to commit resources.*
- *Emergency procedures must be followed in the event of an accident, spill or release.*

CHAPTER 9

SPILL PREVENTION, PREPAREDNESS AND EMERGENCY PROCEDURES

What Are The Requirements For Emergency Prevention?

The result of a hazardous spill or leak can be devastating to life, property, and the environment. Each Los Angeles business has a responsibility to make the City a safe and healthy place to work and live. The immediate attention given to a hazardous spill or leak may prevent serious injury to your employees, the neighboring community and the environment. Proper planning and management before an accident or incident occurs can significantly reduce the hazard, extent and/or cost of a spill or release, and may even prevent the accident from occurring in the first place.

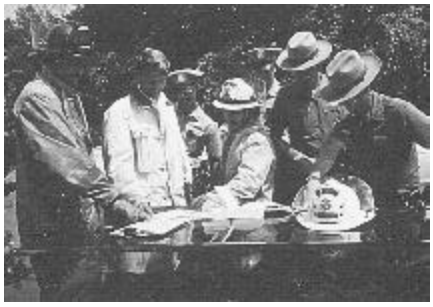
As a hazardous waste generator, you are required to design, operate and maintain your facility in a manner that reduces the possibility of a hazardous waste spill, release, fire or explosion. This means handling your hazardous wastes safely (i.e. using proper drum handling equipment and accumulating your wastes within secondary containment), as well as having in place certain emergency equipment before an emergency happens. An important part of being prepared and planning for an emergency is making sure those outside responders who may be called to assist you in responding to a hazardous waste emergency at your facility are familiar with your facility and the hazards of the wastes you generate.

Proper emergency prevention and planning generally include the following elements:

- Facility Maintenance and Operations:
  - Moving containers with drum 'grabbers' or on pallets - rather than directly between the forks of a forklift;
  - Securing the hazardous waste storage area(s) against unauthorized (and untrained) personnel or the public;
  - Using secondary containment to collect and prevent the spread of any spill that does occur;
  - Not smoking near flammable and combustible wastes;
  - Ensuring good housekeeping in waste generating and handling areas; and
  - Maintaining proper 'aisle space' in container accumulation areas. Aisle space between containers or rows of containers and other equipment or supplies should be adequate to allow for ease of inspections and movement of personnel and emergency

equipment. Clear and immediate access to emergency communications, safety and spill control supplies must be maintained.

- Safety and Emergency Communication Equipment (all well maintained and inspected/tested regularly):
  - Safety showers and eyewashes;
  - Personal protective equipment (gloves, goggles, safety glasses, chemical aprons, etc.);
  - Fire extinguishers and a fire fighting water supply (standpipes, hydrants, etc.);
  - Spill control equipment (absorbents, spill sorbent socks, collection bags, spare drums or 'overpack'/salvage drums);
  - Internal emergency communication devices such as telephones, radios, intercoms, signal lights and horns, alarms, etc. (these must be located in areas handling or accumulating hazardous waste); and
  - External communication devices such as telephones or radios.



- Arrangements with Outside Responders:
  - Arrangements must be made with potential outside emergency responders to familiarize them with the facility, the wastes generated and its hazards. This includes pre-emergency coordination and discussions with local hospitals or urgent care clinics, local police, the L.A. City (and County) Fire Department, and any emergency response contractors you have contracted with to assist in an emergency.
  - Although you may have sent the Hazardous Materials Business Emergency Plan (Consolidated Contingency Plan) to the fire department, you must also take steps to familiarize the other responders with the hazardous waste hazards at your business. Submitting a copy of the Business Plan to these other responders is one way of doing this. If your local authorities or emergency service providers decline to take a copy of your contingency plan, document the refusal in your records or files.

Requirements For Emergency Planning

As a generator of hazardous waste, you are required by state and federal hazardous waste regulations to prepare a Hazardous Waste Contingency Plan. This requirement is now largely (but not completely) fulfilled when the January 2000 or later version of the Consolidated Contingency Plan (new LA City and County Fire Department's version of the Hazardous Materials Business Emergency Plan) is submitted to the Los Angeles City Fire Department. The additional hazardous waste-related elements are discussed later in this chapter. See Chapter 4 of this Guide for information about the Business Emergency Plan. Cal/OSHA also requires you to develop an emergency plan.

The emergency planning requirements described below, as well as Title 22 CCR hazardous waste regulations require specific employee training in emergency response procedures and emergency equipment use. This training must be tailored to the employees' expected emergency duties or responsibilities. The specific requirements for employee emergency

training are covered in Chapter 8 of this Guide.

Emergency Action Plan (Cal/OSHA)

Cal/OSHA, under Title 8, CCR, Section 3220 requires every employer to have an Emergency Action Plan (EAP). The EAP must be in writing and cover those designated actions employers and employees must take to insure employee safety from fire and other emergencies. The EAP primarily covers employee notification and evacuation. The 'evacuation' section of the Business Plan can be completed by copying the appropriate information from your EAP.

The Emergency Action Plan must include the following:

- Emergency escape procedures and emergency escape route assignments;
- Procedures to be followed by employees who remain to operate critical plant operations before they evacuate;
- Procedures to account for all employees after emergency evacuation has been completed;
- Rescue and medical duties for those employees who are to perform them;
- Use the preferred method of reporting fires and other emergencies; and
- Names or regular job titles of persons or departments who can be contacted for further information or explanation of duties under the plan.

The employer must also establish an employee alarm system that complies with Title 8, CCR, Article 165. If the alarm system is used for alerting fire brigade members, or for other purposes, a distinctive signal for each purpose shall be used

Before an emergency can occur, employers must also:

- Designate and train sufficient numbers of persons to assist in the safe and orderly emergency evacuation of employees;
- Advise each employee of his/her responsibility under the plan;
- Review with each employee upon initial assignment those parts of the plan which the employee must know in the event of an emergency; and
- Keep the written plan at the workplace and make it available for employee review. Employers with 10 or fewer employees can communicate the plan verbally to employees, but written documentation should be kept.

Hazardous Materials Business Emergency Plan

As discussed in Chapter 4, California law requires a business to establish and implement a Business Emergency Plan for emergency responses to a release or threatened release of hazardous materials at the facility, if it handles hazardous materials (which include hazardous wastes) over certain quantities. Facilities must complete and submit the Business Emergency Plan (Consolidated Contingency Plan) using forms and instructions provided by the Los Angeles City Fire Department. In general, a Business Emergency Plan must include the following information:

- Administrative information about the business (ownership, street address, 24-hour contact phone numbers, description of business activity, etc.);
- The emergency response and clean-up procedures facility personnel will take in the event of a release or threatened release of hazardous materials;
- Procedures for immediately notifying the Fire Department and State Office of Emergency Services;
- Facility evacuation plans and procedures;
- A description of employee emergency and evacuation training; and
- Medical assistance procedures.

Hazardous Waste Contingency Plan

All generators are required under state and federal hazardous waste regulations to prepare a written hazardous waste contingency plan and implement this plan in an emergency involving hazardous wastes. Because the contingency plan is similar in information and purpose to the Business Plan, the Los Angeles City and Los Angeles County fire departments previously accepted the a Business Emergency Plan as the facility's emergency planning document for both hazardous material and hazardous waste emergencies. However, DTSC (and U.S. EPA) hazardous waste regulations require certain components in the hazardous waste contingency plan, which were not always included in the previous versions of the Hazardous Materials Business Emergency Plan format. Regardless of what format your specific plan is in (and whether or not you are using the newest version of the Consolidated Contingency Plan from the Unified Program Forms package), the required hazardous waste-specific elements include:

- Procedures for evaluating the hazard(s) of hazardous waste incidents and the need for evacuation of surrounding (public) areas;
- Procedures for inspections or monitoring of critical processes or operations when the facility operation has been stopped during the incident;
- Procedures for cleaning and repairing emergency equipment after the emergency is over;
- Procedures for noting/documenting the incident in the facility's operating record and reporting to DTSC if necessary;
- The home phone numbers of the Emergency Coordinator and the alternates listed in the order in which they shall assume responsibility (the Business Plan only requires work and 24-hour phone numbers);
- Description of arrangements made; (1) to familiarize fire and police, emergency response teams, and hospitals with the facility and its wastes; and (2) with state and local emergency response teams and contractors to provide emergency services;
- A list of all emergency and decontamination equipment located at the facility with a physical description of the equipment, a description of its location, and an outline of its capabilities; and
- Emergency and alarm communication and procedures.

Rather than developing two different plans (which is can be expensive and confusing), you should make sure that your facility's emergency plan contains or is supplemented with the above information to ensure you are in compliance with hazardous waste contingency plan requirements. The Los Angeles City and County fire departments can assist you in incorporating these elements. Your emergency plan must be revised whenever:

The contingency plan (including the Business Plan) must be revised whenever:

- It fails during an emergency;
- The facility changes its design, function, or emergency response procedures;
- The contents of the plan change, or the regulatory requirements for planning change; or
- The list of Emergency Coordinators, phone numbers or list of emergency equipment changes.

The plan should also be reviewed after every emergency response drill, exercise, and actual emergency (regardless if the plan 'fails'). All employees involved in the incident or drill should participate in this critique, which should evaluate the written plan itself as well as your actual response. You should ask:

- What did we do right?
- What did we do wrong?
- How can we do it better?

The Emergency Coordinator

The Emergency Coordinator is an employee who is either on the premises of the facility or on-call, and is responsible for coordinating the facility's emergency response procedures and has the authority to commit resources.

The Emergency Coordinator (EC) must be familiar with all aspects of the facility's operation, including:

- Its activities;
- Its layout;
- Its contingency plan;
- The location and characteristics of hazardous wastes managed at the facility; and
- The location of records and equipment at the facility.

The EC must also have the authority to implement the emergency plan, including the authority to commit the necessary resources to accomplish the provisions of the Plan.

The emergency plan must list, and keep up-to-date, the names, addresses, and phone numbers of all persons qualified to act as Emergency Coordinator. This list must indicate the person who is identified as the primary EC and list the alternate EC's in the order in which they shall

assume responsibility as alternates.

The Plan must describe the specific procedures that the facility will follow if an emergency occurs. If there is an imminent or actual emergency, the EC shall notify facility personnel, if applicable, by activating internal alarms or communication systems, and notify the appropriate local and state agencies with emergency response roles. The procedures of the Plan must then be implemented. The EC is responsible for doing this.

If there is a fire, explosion, or release of hazardous waste, the EC must immediately determine its character, source, amount, areal extent or size, and hazardous impact. This determination can be made using observation, coordination with area personnel, facility records, manifests, or chemical analysis.

If the EC determines that the situation could threaten human health, safety, property or the environment, the California Office of Emergency Services and the Los Angeles City Fire Department must be immediately notified. In some cases, DTSC, the National Response Center (NRC - staffed by either U.S. EPA or the U.S. Coast Guard), the Los Angeles County Fire Department (for hazardous waste releases) and other state or local agencies must be notified.

During an emergency, the EC must take reasonable measures to ensure that fires, explosions or releases do not occur, recur, or spread to other hazardous waste at the facility. If the facility operations are stopped, the EC shall, wherever appropriate and safe, monitor the facility equipment for leaks, pressure buildup, gas generation, or ruptures in valves, pipes or other equipment.

Immediately after an emergency, the EC must make arrangements for:

- Treating, storing and/or disposing of recovered waste, contaminated soil or surface water; and
- Resuming operations in affected areas by notifying appropriate state and local authorities that no incompatible wastes are in contact and all emergency equipment listed in the Plan has again been made ready for use.

Any time the Plan is used, the date, time and details of the incident must be noted in the facility operating record. DTSC or the L.A. County Fire Department, Health Hazardous Materials Unit may also require a written report. This report includes:

- Facility information (name/address/phone numbers, etc.);
- Date, time, and type of incident and quantity involved;
- Extent of any injuries;
- Assessment of any actual or potential hazards; and
- Estimated quantity and disposition of recovered material.

Hazardous Substance Spill or Leak Reporting

The California Office Of Emergency Services (OES -- at 1-800-852-7550) and local emergency response agencies (e.g. the L.A. City Fire

Department by calling 911) must be notified immediately if there is a "reasonable belief" that the release or threatened release poses a significant present or potential hazard to human health and/or safety, property or the environment. There is no minimum volume or quantity reporting threshold in California. The National Response Center (NRC - at 1-800-424-8808) must also be notified immediately if there is a release to the environment in a quantity equal to or exceeding the 'reportable quantity' as listed in 40 CFR 302.4 and other federal regulations.

Even if the release can be cleaned up by facility personnel under the Cal/OSHA HAZWOPER low-hazard/immediate work area exception (see Chapter 8 of this Guide), it may still need to be reported to OES, the fire department, and the NRC depending upon the spill volume, and/or its hazard to property or the environment.

The notifications must be made immediately upon knowledge of the spill - even if you do not have complete information. You can always call back and update the information. When calling the OES, police, fire or paramedic units in response to an accident or spill, REMAIN CALM and provide the following information in a clear and complete manner:

- Company name, address, phone number;
- Major cross streets;
- Name of person calling and a call back number;
- The type of assistance needed;
- Description of the type of emergency;
- Number of injured or exposed persons (if any)
- Type of injuries;
- Type of hazardous materials or wastes involved - product name, chemical name, composition;
- Quantity estimate;
- Whether the material is still being released;
- Nature of physical and/or environmental hazard at the emergency scene;
- Exact location; and
- Access to spill area.

What To Do

If a serious situation arises from a spill or leak, which can not be safely or completely cleaned up by your personnel, your business should have emergency procedures for action. Your Business Plan should include procedures to:

- Evacuate the immediate spill area;
- Go upwind and stay upwind of the spill;
- Notify the Office of Emergency Services (OES) immediately if there is a "reasonable belief that the release or threatened release poses a significant, present or potential hazard to human health and safety, property and/or the environment;
- Call 911 to notify the local agency emergency response personnel (L.A. City Fire Department) immediately;
- Notify the U.S. National Response Center if there is a release in quantity equal to or exceeding the reportable quantity listed in 40 CFR 302.4;
- Contain the spill only if possible, keeping employee safety primary; and
- Prevent anyone, except trained and authorized emergency personnel, from entering the area.

NOTES