

Chapter NR 600

GENERAL

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NR 600.01 Purpose. The purpose of this chapter is to provide definitions, general permit application information, incorporation by reference citations and general information concerning the hazardous waste management program.

History: Cr. Register, February, 1991, No. 422, eff. 3-1-91.

NR 600.02 Applicability. This chapter applies to persons who generate, transport, recycle, store, treat or dispose of solid waste that meets the criteria for hazardous waste under s. NR 605.04. Except as otherwise provided, this chapter does not apply to solid waste facilities or solid waste generators or transporters that manage only:

(1) Non-hazardous solid waste,

(2) Metallic mining wastes resulting from a mining operation as defined in s. 293.01 (9), Stats., or

Note: For a more specific list of metallic mining wastes see s. NR 605.05 (1) (j) and (k).

(3) A combination of wastes described in subs. (1) and (2).

History: Cr. Register, February, 1991, No. 422, eff. 3-1-91; correction made under s. 13.93 (2m) (b) 1., Stats., Register, August, 1992, No. 440; am. (2), r. (3), renum. (4) to be (3) and am., Register, May, 1995, No. 473, eff. 6-1-95; correction in (2) made under s. 13.93 (2m) (b) 7., Stats., Register, May, 1998, No. 509.

NR 600.03 Definitions. The following definitions apply to chs. NR 600 to 699:

(1) "Above ground tank" means a tank that is situated in such a way that the entire surface area of the tank is completely above the plane of the adjacent surrounding surface and the entire external surface area of the tank, including the tank bottom, may be visually inspected.

(2) "Absorption" means the penetration of one substance into the inner structure of another.

(3) "Accidental occurrence" means an accident which results in bodily injury or property damage neither expected nor intended from the standpoint of the insured.

(4) "Active life" or "active life of a facility" means the period from initial receipt of hazardous waste at a facility until the department receives and approves of the certification of final closure required under s. NR 685.05 (10) (a).

(5) "Active portion" means that portion of a storage, treatment, or disposal facility where operations are being or have been conducted after August 1, 1981, and is not a closed portion.

(6) "Actual dollar repayments" means equal annual payments made by the facility owner into a long-term care account.

(7) "Acute hazardous waste" means a hazardous waste identified in s. NR 610.09.

(8) "Adsorption" means the condition in which one substance is attracted to and held on to the surface of another.

(9) "Air stripping operation" means a desorption operation employed to transfer one or more volatile components from a liquid mixture into a gas (air) either with or without the application of heat to the liquid. Packed towers, spray towers, and bubble-cap, sieve or valve-type plate towers are among the process configurations used for contacting the air and a liquid.

(10) "Alternate facility" means that hazardous waste facility which has been designated on a manifest pursuant to s. NR 615.08 (4) as the facility where the hazardous waste may be taken in the event an emergency prevents delivery of the waste to the designated facility.

(11) "American petroleum institute (API) separator sludge" means sludge generated by an API separator used for primary petroleum refinery wastewater treatment.

(12) "Ancillary equipment" means any device including, but not limited to devices such as piping, fittings, flanges, valves and pumps, that are used to distribute, meter or control the flow of hazardous waste from its point of generation to a storage or treatment tank or tanks, between hazardous waste storage and treatment tank or tanks to a point of disposal on-site or to a point of shipment for disposal off-site.

(13) "Approved facility" has the meaning specified under s. 289.01 (3), Stats.

(14) "Aquifer" means a geologic formation, part of a formation or connected group of formations which are saturated and can transmit groundwater.

(15) "Assets" means all existing and all probable future economic benefits obtained or controlled by a particular entity.

Note: Probable future economic benefits may include intangibles such as good will and rights to patents or royalties.

(16) "ASTM" means the American society for testing and materials.

(17) "Authorized representative" means the person responsible for the overall operation of a facility, or part of a site or facility, such as a plant manager, superintendent or person of equivalent responsibility.

(18) "Authorized state" means a state that has been authorized by EPA under 42 USC 6926, and federal regulations promulgated under that section of the resource conservation and recovery act into Title 40, Part 271 of the Code of Federal Regulations, to administer a state hazardous waste program in place of all or part of the federal hazardous waste program in that state.

Note: The publication containing Title 42 of the United States Code may be obtained from:

Superintendent of Documents
U.S. Government Printing Office
P.O. Box 371954
Pittsburgh, PA 15250-7954
(202) 783-3238

(18m) "Battery" means a device consisting of one or more electrically connected electrochemical cells which is designed to receive, store, and deliver electric energy. An electrochemical cell is a system consisting of an anode, cathode and an electrolyte, plus such electrical and mechanical connections as may be needed to allow the cell to deliver or receive electrical energy. The term battery also includes an intact, unbroken battery from which the electrolyte has been removed.

(19) "Beneficial use or reuse of a hazardous waste" means the use or reuse of hazardous waste as an ingredient or feedstock in production processes, the use of hazardous waste as a substitute for raw material in processes that usually use raw materials as

feedstocks or using or reusing hazardous waste as a substitute for commercial chemical products. This term does not include burning or the legitimate recovery or reclamation of a hazardous waste.

(20) “Boiler” means an enclosed device using controlled flame combustion and having the following characteristics:

(a) The unit has physical provisions for recovering and exporting thermal energy in the form of steam, heated fluids or heated gases; and

(b) The unit’s combustion chamber and primary energy recovery sections are of integral design. To be of integral design, the combustion chamber and the primary energy recovery sections must be physically formed into one manufactured or assembled unit. A unit in which the combustion chamber and the primary energy recovery sections are joined only by ducts or connections carrying flue gas is not integrally designed; however, secondary energy recovery equipment need not be physically formed into the same unit as the combustion chamber and the primary energy recovery section. The following units are not precluded from being boilers solely because they are not of integral design: process heaters and fluidized bed combustion units; and

Note: Examples of primary energy recovery sections include waterwalls and superheaters.

Note: Examples of secondary energy recovery equipment include economizers and air preheaters.

Note: Process heaters are units that transfer energy directly to a process stream.

(c) While in operation, the unit maintains a thermal energy recovery efficiency of at least 60%, calculated in terms of the recovered energy compared with the thermal value of the fuel; and

(d) The unit exports and utilizes at least 75% of the recovered energy, calculated on an annual basis. In this calculation, no credit may be given for recovered heat used internally in the same unit.

Note: Examples of internal use of recovered heat are the preheating of fuel or combustion air and the driving of induced or forced draft fans or feedwater pumps.

(21) “Bulk shipment by water” means the bulk transportation of hazardous waste which is loaded or carried on board a water vessel without containers or labels.

(22) “Burner” means an owner or operator of a boiler or industrial furnace as defined in this section that burns hazardous waste fuel.

(23) “By-product” means a material that is not one of the primary products of a production process and is not solely or separately produced by the production process.

Note: Examples of a by-product are process residues such as slags or scrap circuit boards. The term does not include a co-product that is produced for the general public’s use and is ordinarily used in the form it is produced by the process. The term does not include refuse or sludge.

(23m) “Captive insurance company” means a closely-held company owned by one or more organizations, parents, whose original purpose was and may continue to be, to insure some or all of the risks of shareholders or affiliated organizations.

(24) “Certificate of deposit” means a certificate issued by a bank or financial institution acknowledging receipt of a specific large sum of money in a special kind of time deposit, drawing interest and requiring written notice of withdrawal.

(25) “Certification” means a statement of professional opinion based upon knowledge and belief.

(26) “CFR” means the code of federal regulations.

(27) “Clay” or “clay soil” means a soil which is a fine grain soil classified as CL or CH under the unified soil classification system specified in ASTM standard D-2487-69 (1975).

Note: The publication containing this standard is available for inspection at the offices of the department, the secretary of state and the revisor of statutes.

(28) “Clean sweep program” means a program for the collection and disposal of household hazardous waste.

(29) “Closed portion” means that portion of a facility which an owner or operator has closed in accordance with the approved facility closure plan and all applicable closure requirements.

(30) “Closed-vent system” means a system that is not open to the atmosphere and that is composed of piping, connections and,

if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device.

(31) “Closing” has the meaning specified under s. 289.01 (5), Stats.

(32) “Closure” means those actions taken by the owner or operator of a hazardous waste facility to prepare the facility for long-term care and to make it suitable for other uses.

(33) “Closure cost estimate” means the most recent of the estimates prepared in accordance with s. NR 685.07 (3).

(34) “Closure period” means the 60 day period after a facility ceases to accept waste for hazardous waste treatment and storage facilities and the 90 day period after a facility ceases to accept waste for hazardous waste land disposal facilities unless otherwise specified in the approved plan of operation.

(35) “Closure plan” means a written report, generally submitted with the plan of operation, detailing the measures that shall be taken by a hazardous waste facility owner or operator to ensure and effect proper closure.

(36) “COD” means chemical oxygen demand.

(37) “Combustion zone” means that portion of the internal capacity of an incinerator where the gas temperatures of the materials being burned are within 100°C of the specified operating temperature, and there is oxygen present in excess of the theoretical amount necessary to completely oxidize any combustible materials.

(38) “Commercial chemical product or manufacturing chemical intermediate” means a chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. It does not mean a waste, such as a manufacturing process waste, that contains any of the substances listed in ch. NR 605, table IV or V. Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in ch. NR 605, table IV or V, the waste shall be listed in s. NR 605.09 (2), or shall be identified as a hazardous waste by the characteristics in s. NR 605.08.

(39) “Commercial facility” means a facility providing hazardous waste management services to persons other than the owner or operator for the purpose of making a profit.

(40) “Company” has the meaning specified under s. 289.41 (1) (b), Stats.

(41) “Consignee” means the ultimate treatment, storage or disposal facility in a receiving country to which the hazardous waste will be sent.

(42) “Construct” means to engage in a program of on-site construction including but not limited to the erection or building of new structures, replacement, expansion, remodeling, alteration or extension of existing structures, the acquisition and installation of initial equipment associated with the new or expanded, remodeled structures, and site clearing, grading, dredging or landfilling.

(43) “Construction observation report” means a written report submitted under the seal of a registered professional engineer advising that a hazardous waste facility has been constructed in substantial compliance with a department approved plan of operation.

(44) “Container” means any portable enclosure in which a material is stored, transported, treated, disposed of or otherwise handled.

(45) “Containment building” means a hazardous waste management unit that is used to store or treat hazardous waste in accordance with ch. NR 655 and is not a waste pile.

(46) “Contingency plan” means a document setting out an organized, planned and coordinated course of action to be followed in the event of a fire, explosion or discharge of hazardous wastes or hazardous waste constituents into the environment

which has the potential for endangering human health or the environment.

(47) “Continuous recorder” means a data–recording device recording an instantaneous data value at least once every 15 minutes.

(48) “Corrective action” has the meaning specified under s. 291.37 (1) (a), Stats.

(49) “Corrective action management unit” or “CAMU” means an area within a facility that is designated by the department under ch. NR 636 for the purpose of implementing corrective action requirements under s. NR 635.17 and s. 291.37, Stats. A CAMU shall only be used for the management of remediation wastes pursuant to implementing such corrective action requirements at the facility.

(50) “Corrosion expert” means a person who has acquired a knowledge of the physical sciences and the principles of engineering and mathematics through professional education and related practical experience and who is qualified to practice corrosion control on buried or submerged metal piping systems and metal tanks. The qualified person shall be certified by the national association of corrosion engineers (NACE) or be a registered professional engineer who has certification or licensing including education and experience in corrosion control on buried or submerged metal piping systems and metal tanks.

(51) “Critical habitat areas” means any habitat determined by the department to be critical to the continued existence of any endangered species listed in ch. NR 27.

(52) “Current assets” means cash or other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.

(53) “Current liabilities” means obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities.

(54) “Department” means the Wisconsin department of natural resources.

(55) “Design capacity” means the total design volume of a facility and in the case of a treatment or disposal facility includes the volume of waste and daily or intermediate cover, but does not include final cover or topsoil.

(56) “Designated facility” means a hazardous waste facility or recycling facility that: a) is located in Wisconsin and has received a license under ch. NR 680, b) is located in another state authorized in accordance with 40 CFR Part 271, July 1, 1993, and has received a permit or interim status from that state, c) is located in an unauthorized state and has received a permit or interim status from EPA in accordance with the requirements of 40 CFR 124 and 270, July 1, 1993 or d) is located in an unauthorized state and is regulated under 40 CFR 261.6 (c) (2), July 1, 1993, or 40 CFR 266, Subpart F, July 1, 1993 and e) has been designated on the manifest by the generator pursuant to s. NR 615.08. If a waste is destined to a facility in an authorized state that has not yet obtained authorization to regulate that particular waste as hazardous, then the designated facility shall be a facility allowed by the receiving state to accept such waste.

(56m) “Destination facility” means a facility that treats, disposes of or recycles a particular category of universal waste. A facility at which a particular category of universal waste is only accumulated is not a destination facility for purposes of managing that category of universal waste.

Note: For purposes of this subsection, “treats, disposes of or recycles” does not include the management activities described in ss. NR 690.13 (1) and (3) and 690.33 (1) and (3).

(57) “Detrimental effect on ground or surface water” means having a significant damaging impact on ground or surface water quality for any present or future consumptive or nonconsumptive uses.

(58) “Dike” means an embankment or ridge of either natural or man–made materials used to prevent the movement of liquids, sludges, solids or other materials.

(59) “Discharge” has the meaning specified under s. 292.01 (3), Stats.

(60) “Displacement” means the relative movement of any 2 sides of a fault measured in any direction.

(61) “Disposal” has the meaning specified under s. 291.01 (3), Stats.

(62) “Disposal facility” means a facility or part of a facility at which hazardous waste is intentionally placed into or on the land or water, and at which hazardous waste will remain after closure. The term disposal facility does not include a corrective action management unit into which remediation wastes are placed.

(63) “Distillation operation” means an operation, either batch or continuous, separating one or more feed streams into 2 or more exit streams, each exit stream having component concentrations different from those in the feed streams. The separation is achieved by the redistribution of the components between the liquid and vapor phase as they approach equilibrium within the distillation unit.

(64) “DOT” means the United States department of transportation.

(65) “DOT identification number” means the hazardous materials identification number assigned by the DOT, in 49 CFR 172.101 and 172.102, October 1, 1993.

Note: The publication containing the CFR references may be obtained from:

Superintendent of Documents
U.S. Government Printing Office
P.O. Box 371954
Pittsburgh, PA 15250–7954
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(66) “Double block and bleed system” means 2 block valves connected in series with a bleed valve or line that can vent the line between the 2 block valves.

(67) “Drip pad” means an engineered structure consisting of a curbed, free–draining base, constructed of non–earthen materials and designed to convey preservative kick–back or drippage from treated wood, precipitation, and surface water run–on to an associated collection system at wood preserving plants.

(68) “Elementary neutralization unit” means a device which:

(a) Is used for neutralizing wastes that are hazardous wastes only because they exhibit the corrosivity characteristic defined in s. NR 605.08 (3) or they are listed in s. NR 605.09 only for this reason; and

(b) Meets the definition of tank, tank system, container, transport vehicle, or vessel in this section.

(69) “EPA” means the United States environmental protection agency.

(70) “EPA acknowledgement of consent” means the cable sent to EPA from the U.S. embassy in a receiving country that acknowledges the written consent of the receiving country to accept the hazardous waste and describes the terms and conditions of the receiving country’s consent to the shipment.

(71) “EPA administrator” means the administrator of the EPA or anyone designated to act for the administrator of the EPA.

(72) “EPA hazardous waste number” means the number assigned by EPA to each hazardous waste listed in 40 CFR Part 261, Subpart D, July 1, 1993, and to each characteristic identified in 40 CFR Part 261, Subpart C, July 1, 1993.

Note: The publication containing the CFR references may be obtained from:

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(73) “EPA identification number” means the number assigned by EPA to each generator, transporter, and treatment, storage or disposal facility.

(74) "Equal annual outpayments" means estimated payments for long-term care which are the same amount in each year of the period of owner responsibility for the long-term care of the facility.

(75) "Equivalent method" means any testing or analytical method approved by the department under ss. NR 635.12 (10) (c) and 680.04.

(76) "Existing hazardous waste management facility" or "existing facility" means a facility which was in operation or for which construction commenced on or before November 19, 1980. A facility has commenced construction if:

(a) The owner or operator has obtained the federal, state and local approvals or licenses necessary to begin construction; and either

(b) 1. A continuous on-site, physical construction program has begun; or

2. The owner or operator has entered into contractual obligation, which cannot be cancelled or modified without substantial loss, for construction of the facility to be completed within a reasonable time.

(77) "Existing tank system" or "existing tank system component" means a tank system or tank system component that is used for the storage or treatment of hazardous waste and that is in operation, or for which installation has commenced on or prior to March 1, 1991. Installation shall be considered to have commenced if the owner or operator has obtained all federal, state and local approvals, licenses or permits necessary to begin physical construction of the site or installation of the tank system and if either:

(a) A continuous on-site physical construction or installation program has begun, or

(b) The owner or operator has entered into a contract, which may not be cancelled or modified without substantial loss, for physical construction of the site or installation of the tank system to be completed within a reasonable time.

(78) "Facility" means:

(a) All contiguous land and structures, other appurtenances, and improvements on the land, used for treating, storing or disposing of hazardous waste. A facility may consist of several treatment, storage or disposal operational units, including one or more landfills, surface impoundments, or combinations of them.

(b) For the purpose of implementing corrective action under s. NR 635.17 all contiguous property under the control of the owner or operator seeking a license under chs. NR 630 to 685. This definition also applies to facilities implementing corrective action under s. 291.37, Stats.

(79) "Fault" means a fracture along which rocks on one side have been displaced with respect to those on the other side.

(80) "Feasibility report" means a report for a specific hazardous waste facility that describes the facility, surrounding area, and proposed operation in terms of land use, topography, soils, geology, groundwater, surface water, proposed waste quantities and characteristics, preliminary facility design concepts and any anticipated environmental impacts.

(81) "Feasibility and plan of operation report" means a single report which may be required by the department under s. 289.30 (3), Stats., for hazardous waste storage and treatment facilities that includes the elements of both a feasibility report and a plan of operation.

(82) "Final closure" means the closure of all hazardous waste management units at a facility in accordance with the approved facility closure plan and all applicable closure requirements under chs. NR 600 to 685, so that hazardous waste management under s. NR 600.04 and chs. NR 630 to 685 is no longer conducted at a facility, but does not include long-term care and financial responsibility requirements.

(83) "Final cover" means cover material that is applied upon closure of a hazardous waste disposal facility or unit and is permanently exposed at the surface.

(84) "Flame zone" means the portion of the combustion chamber in a boiler occupied by the flame envelope.

(85) "Floodplain" means the land which has been or may be hereafter covered by flood water during the regional flood as defined in ch. NR 116, and includes the floodway and the flood fringe as defined in ch. NR 116.

(86) "Flow indicator" means a device that indicates whether gas flow is present in a vent stream.

(87) "Fluid" means any material or substance which flows or moves whether in a semisolid, liquid, sludge, gas regardless of its form or state.

(88) "Food-chain crops" means tobacco, crops grown for human consumption and crops grown for feed for animals whose products are consumed by humans.

(89) "FR" means the federal register.

(90) "Fractionation operation" means a distillation operation or method used to separate a mixture of several volatile components of different boiling points in successive stages, each stage removing from the mixture some proportion of one of the components.

(91) "Freeboard" means the vertical distance between the top of a tank or surface impoundment dike and the surface of the waste contained therein.

(92) "Free liquids" means liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.

Note: To demonstrate the absence or presence of free liquids, method 9095, paint filter liquids test, described in EPA Publication SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", third edition, as incorporated by reference in s. NR 600.10 (2) (b) 1. and (c) may be used.

(93) "Generation" has the meaning specified in s. 291.01 (5), Stats.

(94) "Generator" means any person, by generation site, whose act or process produces a hazardous waste identified or listed in ch. NR 605, or whose act first causes a hazardous waste to become subject to regulation under chs. NR 600 to 690.

(95) "Groundwater" means water in a saturated zone beneath the land surface.

(96) "Halogenated organic compounds" or "HOC" means those compounds having a carbon-halogen bond which are listed under appendix II to ch. NR 675.

(97) "Hazardous substance" has the meaning specified under s. 289.01 (11), Stats.

(98) "Hazardous waste" or "waste" means a solid waste that fits the definition of hazardous waste in s. NR 605.04, and is not excluded by the provisions of s. NR 605.05.

(99) "Hazardous waste boundary" means, for disposal facilities, the outermost perimeter of the hazardous waste projected in the horizontal plane as would exist at the completion of the disposal activity or, for storage or treatment facilities, the outermost boundary of hazardous waste storage or treatment.

(100) "Hazardous waste constituent" or "hazardous constituent" means a constituent listed in ch. NR 605, Appendix IV which caused the department to list a hazardous waste in s. NR 605.09, or a contaminant listed in Table I in s. NR 605.08.

(101) "Hazardous waste facility" has the meaning specified under s. 291.01 (8), Stats.

(102) "Hazardous waste fuel" means hazardous waste burned for energy recovery and fuel produced from hazardous waste by processing, blending or other treatment.

(103) "Hazardous waste management" has the meaning specified under s. 291.01 (9), Stats.

(104) "Hazardous waste management unit", "operating unit" or "regulated unit" means a 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. A container alone does not constitute a unit; the unit includes containers and the land or pad upon which they are placed.

Note: Examples of hazardous waste management units include a surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system and a container storage area.

(105) "Hazardous waste number" means the number assigned to each hazardous waste listed in s. NR 605.09 and to each characteristic identified in s. NR 605.08.

(106) "Holocene" means the most recent epoch of the quaternary period, extending from the end of the pleistocene to the present.

(107) "Household waste" means any material, including garbage, trash and sanitary wastes in septic tanks, derived from households, including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds and day-use recreation areas.

(108) "Hydraulic gradient" means the change in hydraulic pressure per unit of distance in a given direction.

(109) "Hydrogeologist" means a person who is a graduate of an accredited institution of higher education and who has successfully completed 30 semester hours or 45 quarter hours of course work in geology. At least 6 semester hours or 9 quarter hours of the geology course work shall be in hydrogeology, geohydrology or groundwater geology. This person shall also have acquired through education and field experience, the ability to direct the drilling of borings and the installation and development of wells, describe and classify geologic samples and evaluate and interpret geologic and hydrogeologic data.

(110) "Identification number" means the unique number assigned to each generator, transporter or treatment, storage or disposal facility. This identification number is identical to the EPA identification number assigned by the EPA to each generator, transporter or treatment, storage or disposal facility.

(111) "In operation" means a facility which is treating, storing or disposing of hazardous waste.

(112) "In situ sampling systems" means nonextractive samplers or in-line samplers.

(113) "In vacuum service" means that equipment is operating at an internal pressure that is at least 5 kPa below ambient pressure.

(114) "Incinerator" means an enclosed device using controlled flame combustion that is not a boiler or an industrial furnace.

(115) "Incompatible waste" means a hazardous waste which is unsuitable for:

(a) Placement in a particular device, site or facility because it may cause corrosion or decay of containment materials, such as the container, inner liners or tank walls.

(b) Commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes or gases, or flammable fumes or gases.

(116) "Independently audited" means an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.

(117) "Individual generation site" means 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.

(118) "Industrial furnace" means any of the following enclosed devices that are integral components of manufacturing

processes and use controlled flame combustion to accomplish recovery of materials or energy:

- (a) Cement kilns;
- (b) Lime kilns;
- (c) Aggregate kilns;
- (d) Phosphate kilns;
- (e) Blast furnaces;
- (f) Smelting furnaces;
- (g) Methane reforming furnaces;
- (h) Combustion devices used in the recovery of sulfur values from spent sulfuric acid;
- (i) Pulping liquor recovery furnaces;
- (j) Coke ovens; and
- (k) Titanium dioxide chloride process oxidation reactors.

Note: The department may decide to add devices to this list on the basis of one or more of the following factors:

- (1) The device is designed and used primarily to accomplish recovery of material products;
- (2) The device burns secondary materials as ingredients in an industrial process to make a material product;
- (3) The device burns secondary materials as effective substitutes for raw materials in processes using raw materials as principal feed stocks;
- (4) The device burns raw materials to make a material product;
- (5) The device is in common industrial use to produce a material product;
- (6) Other factors, as appropriate.

(119) "Inground tank" means a tank where a portion of the tank wall is situated to any degree within the ground, thereby preventing visual inspection of that external surface area of the tank that is in the ground.

(120) "Injection" means the subsurface emplacement of a fluid or waste.

(121) "Inner liner" means a continuous layer of material placed inside a tank or container which protects the construction materials of the tank or container from the contained wastes or reagents used to treat the waste.

(122) "Inorganic solid debris" means nonfriable inorganic solids contaminated with D004 to D011 hazardous wastes that are incapable of passing through a 9.5 mm standard sieve and that require cutting or crushing and grinding in mechanical sizing equipment prior to stabilization, and are limited to the following inorganic or metal materials:

- (a) Metal slags (either dross or scoria),
- (b) Glassified slag,
- (c) Glass,
- (d) Concrete excluding cementitious or pozzolanic stabilized hazardous wastes,
- (e) Masonry and refractory bricks,
- (f) Metal cans, containers, drums or tanks,
- (g) Metal nuts, bolts, pipes, pumps, valves, appliances or industrial equipment, or
- (h) Scrap metal.

(123) "Installation inspector" means a person who has acquired knowledge of the physical sciences and the principles of engineering through a professional education and related practical experience and is, therefore, qualified to supervise the installation of tank systems.

(124) "Interest bearing accounts" means escrow accounts, trust accounts or cash deposits with the department.

(125) "International shipment" means the transportation of hazardous waste into or out of the jurisdiction of the United States.

(126) "Land disposal" means placement in or on the land, except in a corrective action management unit, and includes, but is not limited to, placement in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, salt bed formation, underground mine or cave, or placement in a concrete vault, or bunker intended for disposal purposes.

(127) "Land treatment" means the application of waste onto the soil surface or into the soil surface through incorporation. This term does not include the placement of waste in a landfill cell.

(128) "Land treatment facility" means a facility or part of a facility at which hazardous waste is applied onto or incorporated into the soil surface; these facilities are disposal facilities if the waste will remain after closure.

(129) "Landfill" means a disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a pile, a land treatment facility, a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground mine, a cave or a corrective action management unit.

(130) "Landfill cell" means a discrete volume of a hazardous waste landfill which uses a liner to provide isolation of wastes from adjacent cells or wastes.

Note: Examples of landfill cells are trenches and pits.

(131) "LC50" means the median lethal concentration which is the statistical estimate of the concentration of a substance in air or water necessary to kill 50% of test organisms within a specified time under standardized conditions.

(132) "LD50" means the median lethal dose which is the statistical estimate of the dosage of a substance necessary to kill 50% of an infinite population of test animals as determined from exposure to the substance, by any route other than inhalation, of a significant number from that population.

(133) "Leachate" means any liquid, including any suspended components in the liquid, that has percolated through or drained from hazardous waste.

(134) "Leachate collection and removal system" means a system capable of collecting leachate or other liquids generated within a hazardous waste landfill, and removing the leachate or other liquids from the landfill. The system is placed or constructed above a landfill liner system.

(135) "Leachate monitoring system" means a system within a facility used to monitor leachate or other liquids generated within a hazardous waste landfill. The system is placed or constructed above the landfill liner system.

Note: One example of a leachate monitoring system is a leachate head well.

(136) "Leak detection system" means 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 and which employs operation controls, such as daily visual inspections for releases into the secondary containment system of above ground tanks, or consists of an interstitial monitoring device designed to continuously and automatically detect the failure of the tank system or secondary containment structure or the presence of a release of hazardous waste into the secondary containment structure.

(137) "Legal defense costs" means any expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

(138) "Legitimate recovery or reclamation of a hazardous waste" means the regeneration of a hazardous waste to remove contaminants so that the waste may be put to further use, the processing of a hazardous waste to recover usable materials or the regeneration of waste to its original form. This term does not include the burning or beneficial use or reuse of a hazardous waste.

Note: Examples of legitimate recovery or reclamation are solvent recovery stills and metal recovery units, such as silver recovery from photographic waste.

(139) "Liabilities" means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.

(140) "Licensee" means the person responsible for compliance with any conditions which are a part of any license issued under chs. NR 600 to 685.

(141) "Liner" means a continuous layer of natural or man-made materials beneath and on the sides of a waste pile, surface impoundment, landfill or landfill cell, which restricts the downward or lateral escape of hazardous waste, hazardous waste constituents or leachate.

(142) "Local approval" has the meaning specified under s. 289.33 (3) (d), Stats.

(143) "Long-term care" has the meaning specified under s. 289.01 (21), Stats.

(144) "Long-term care cost estimate" means the most recent of the estimates prepared in accordance with s. NR 685.07 (4).

(145) "Long-term compatibility testing" means testing of the liner which continues for the life of the facility, including the entire period of long-term care.

(146) "Manifest" is defined in s. 291.01 (11), Stats. For the purpose of chs. NR 600 to 685, "manifest" means the shipping document state of Wisconsin form 4400-66 or EPA form 8700-22 and, if necessary, EPA form 8700-22A, originated and signed by the generator in accordance with the requirements of s. NR 615.08.

Note: EPA manifest continuation form 8700-22A may be used either with EPA manifest form 8700-22 or with state of Wisconsin manifest form 4400-66.

(147) "Manifest discrepancy" means the differences between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity or type of hazardous waste a facility actually receives.

Note: See also the definition of "significant manifest discrepancy" in this section.

(148) "Manifest document number" means the EPA identification number assigned to the generator plus a unique 5 digit document number assigned to the manifest by the generator for recording and reporting purposes.

(149) "Marking" means applying the DOT descriptive name, instructions, cautions, weight or specification marks or combinations thereof required by chs. NR 600 to 685 to be placed upon the outside of containers of hazardous waste.

(150) "Miscellaneous unit" means a hazardous waste management unit where hazardous waste is treated, stored or disposed of and that is not a container, tank, surface impoundment, pile, land treatment unit, landfill, incinerator, boiler, industrial furnace, underground injection well, containment building, corrective action management unit or unit eligible for research, development and demonstration license under ch. NR 680.

(151) "Monitoring" means all procedures used to systematically inspect and collect data on operating characteristics of a facility or on the quality of the air, groundwater, surface water or soils.

(152) "Movement" means hazardous waste that is transported to a facility in an individual vehicle.

(153) "Municipal solid waste" means:

(a) Household waste, or

(b) Solid waste from commercial or industrial sources that does not contain hazardous waste and does not contain any process waste which is the direct or indirect result of the manufacturing of a product or the performance of a service such as dry cleaners or paint shops. Municipal solid waste does not include waste wood, papermill sludge, sewage sludge, tires or industrial process wastes.

(154) "Net working capital" means current assets minus current liabilities.

(155) "Net worth" has the meaning specified under s. 289.41 (1) (c), Stats.

(156) "New tank system" or "new tank system component" means a tank system or tank system component that shall be used

for the storage or treatment of hazardous waste and for which installation has commenced after March 1, 1991 except, however, for purposes of s. NR 645.09 (7), a new aboveground, inground or onground tank system is one for which construction commences after March 1, 1991.

Note: Tanks and tank systems that are owned or operated by small quantity generators or tank systems and tank system components which are underground and non-enterable for inspection, which construction or installation commenced between July 14, 1986 and March 1, 1991, are subject to the provisions in 40 CFR 264, Subpart J, July 1, 1991, or 40 CFR 265, Subpart J, July 1, 1990.

Note: The publication containing the CFR references may be obtained from:

Superintendent of Documents
U.S. Government Printing Office
P.O. Box 371954
Pittsburgh, PA 15250-7954
(202) 783-3238

(157) “Non-approved facility” has the meaning specified under s. 289.01 (24), Stats.

(158) “Non-commercial facility” means a privately operated hazardous waste management facility managing its own waste or wastes from another corporation under common ownership or control.

(159) “Non-interest bearing accounts” means letters of credit or performance or forfeiture bonds.

(160) “Non-hazardous solid waste” means solid waste which is also not a hazardous waste.

(161) “Nonpoint source” means a source from which pollutants emanate in an unconfined and unchanneled manner, including, but not limited to, the following:

(a) For water effluent, “nonpoint source” has the meaning specified under s. 281.65 (2) (b), Stats.

(b) For nonpoint sources of air contaminant emissions, this includes any landfills or surface impoundments.

(162) “Nonsudden accidental occurrence” means an accidental occurrence which takes place over time and involves continuous or repeated exposure.

(163) “Onground tank” means a tank that is situated in such a way that the bottom of the tank is on the same level as the adjacent surrounding surface so that the external tank bottom cannot be visually inspected.

(164) “On-site” means on the same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a crossroads intersection, and access is by crossing, as opposed to going along, the right-of-way. Non-contiguous 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 on-site property.

(165) “Open burning” means the combustion of any material without the following characteristics:

(a) Control of combustion air to maintain an adequate temperature for efficient combustion;

(b) Containment of the combustion reaction in an enclosed device to provide sufficient residence time and turbulence for complete combustion; and

(c) Control of emission of the gaseous combustion products.

(166) “Operator” means the person who is responsible for the overall operation of a hazardous waste facility or for part of a hazardous waste facility.

(167) “Owner” means the person who owns a hazardous waste facility or recycling facility, or part of a hazardous waste facility or recycling facility.

(168) “Parent corporation” means a corporation which directly holds at least 50% 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.

(169) “Partial closure” means the closure of a unit, hazardous waste management unit, operating unit or regulated unit at a facil-

ity that contains other units in accordance with the applicable closure requirements of chs. NR 600 to 685.

Note: Partial closure may include the closure of a particular unit, such as a landfill cell or trench, while other parts of the same facility continue to operate.

(170) “Person” has the meaning specified under s. 289.01 (27), Stats. In addition person means any trust, firm, joint stock company, state commission, political subdivision and interstate body.

(171) “Personnel” or “facility personnel” means 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 chs. NR 600 to 685.

(171m) “Pesticide” means any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any pest, or intended for use as a plant regulator, defoliant or desiccant, other than any article that either:

(a) Is a new animal drug under 21 USC 321 (w), or

(b) Is an animal drug that has been determined by regulation of the secretary of the U.S. department of health and human services not to be a new animal drug, or

(c) Is an animal feed under 21 USC 321 (x) that bears or contains any substances described by par. (a) or (b).

(172) “Pile” means any noncontainerized accumulation of solid, nonflowing hazardous waste that is used for treatment or storage.

(173) “Plan of operation” means a report submitted for a hazardous waste facility that describes its location, design, construction, operation, maintenance, closing and long-term care.

(174) “POHC” means a principal organic hazardous constituent.

(175) “Point of standards application” has the meaning specified in s. NR 140.05 (15).

(176) “Point source” means any discernible, confined and discrete conveyance, including, but not limited to, the following:

(a) For water effluent, “point source” has the meaning specified under s. 283.01 (12), Stats.; and

(b) For air contaminant emissions, any stack, duct or vent from which pollutants are or may be discharged.

(177) “Polychlorinated biphenyls” or “PCBs” has the meaning specified under s. 299.45 (1) (a), Stats.

(178) “Polychlorinated biphenyls waste” or “PCB waste” has the meaning specified under s. 289.53 (1) (c), Stats.

(179) “Pressure release” means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device.

(180) “Primary exporter” means any person who is required to originate the manifest for a shipment of hazardous waste in accordance with s. NR 615.08, which specifies a treatment, storage or disposal facility in a receiving country as the facility to which the hazardous waste shall be sent and any intermediary arranging for the export.

(181) “Proof of financial responsibility” means a bond, deposit or proof of an established escrow account, trust account or other proof of financial responsibility satisfactory to the department ensuring that sufficient funds shall be available to comply with the closure and long-term care requirements of chs. NR 600 to 685 and the approved plan of operation.

(182) “Publicly owned treatment works” or “POTW” means any device or system used in the treatment, including recycling and reclamation, of municipal sewage or industrial wastes of a liquid nature which is owned by the state or a municipality. This definition includes sewers, pipes or other conveyances only if they convey wastewater to a POTW providing treatment.

(183) “Real dollar inpayments” means payments made by the facility owner which increase each year at the rate of inflation, into a long-term care account.

(184) "Receiving country" means a foreign country to which a hazardous waste is sent for the purpose of treatment, storage or disposal, except short-term storage incidental to transportation.

(185) "Recharge zone" means an area through which water enters an aquifer.

(186) "Recycling" means the beneficial use, reuse or legitimate recovery or reclamation of a hazardous waste. Recycling includes the recovery of energy from hazardous waste.

(187) "Recycling facility" means a treatment facility where hazardous waste is recycled and may include a facility where hazardous waste has been generated.

(188) "Regional" means the area which may affect or be affected by the proposed facility site. In most instances the area which may affect or be affected by the proposed facility site will be the proposed facility site and the area within a one mile radius.

(189) "Registered professional engineer" means a professional engineer registered as such with the Wisconsin examining board of architects, professional engineers, designers and land surveyors.

(190) "Release" has the meaning specified under s. 291.37 (1) (b), Stats.

(192) "Replacement unit" means a landfill, surface impoundment, or waste pile unit a) from which all or substantially all of the waste is removed, and b) that is subsequently reused to treat, store, or dispose of hazardous waste. "Replacement unit" does not apply to a unit from which waste is removed during closure, if the subsequent reuse solely involves the disposal of waste from that unit and other closing units or corrective action areas at the facility, in accordance with an approved closure plan or EPA or state approved corrective action.

(193) "Reporting quarter" means the 3 month time period covered by each quarterly report. The reporting quarters end on the last day of March, June, September and December.

(194) "Representative sample" means any sample of a universe or whole, such as groundwater or hazardous waste, which may be expected to exhibit the average properties of the universe or whole. Methods for obtaining representative samples of hazardous wastes are given in ch. NR 605, appendix I.

(195) "Resource conservation and recovery act" or "RCRA" has the meaning specified under s. 291.01 (17), Stats.

(196) "Retention time" means the time hazardous waste is subjected to the combustion zone in an incinerator.

(197) "Run-off" means any rainwater, leachate or other liquid that drains over land, from any part of a hazardous waste facility.

(198) "Run-on" means any rainwater, leachate or other liquid that drains over land onto any part of a hazardous waste facility.

(199) "Saturated zone" means that part of the earth's crust in which all voids are filled with water.

(200) "Schedule of compliance" means a schedule of remedial measures including an enforceable sequence of interim requirements leading to compliance with the requirements of chs. NR 600 to 685.

(201) "Scrap metal" means bits and pieces of metal parts or metal pieces that may be combined together with bolts or soldering, which when worn or superfluous can be recycled.

Note: Examples of scrap metal are bars, turnings, rods, sheets, wire, radiators, scrap automobiles and railroad box cars.

(202) "Short-term compatibility testing" means testing which is performed in the laboratory and continues for a minimum of 180 days.

(203) "Significant manifest discrepancy" means:

(a) Discrepancies in quantity that are equal to or greater than 10% in weight for bulk shipments or any variation in piece count, such as a discrepancy of one drum in a truckload for batch shipments of waste; or

(b) Discrepancies in type that are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper.

(204) "Sludge" means any solid, semi-solid or liquid waste generated from a municipal, commercial or industrial wastewater treatment plant, water supply treatment plant or air pollution control facility, exclusive of any of the treated effluent from a wastewater treatment plant.

(205) "Small quantity generator" means a person who generates less than 1,000 kilograms (2,205 pounds) of hazardous waste in a calendar month and does not accumulate at any time quantities of hazardous waste greater than 6,000 kilograms (13,230 pounds).

(206) "Solid waste" has the meaning specified under s. 289.01 (33), Stats.

Note: The domestic sewage exemption in the definition of "solid waste" applies to non-domestic waste once mixed with sanitary wastes in a sewer system leading to a POTW. An industrial waste stream that never mixes with sanitary wastes in the sewer prior to storage or treatment does not fall within the exemption.

(207) "Solid waste facility" has the meaning specified under s. 289.01 (35), Stats.

(208) "Solid waste management unit" has the meaning specified under s. 291.37 (1) (c), Stats.

(209) "Solvent extraction operation" means an operation or method of separation in which a solid or solution is contacted with a liquid solvent (the 2 being mutually insoluble) to preferentially dissolve and transfer one or more components into the solvent.

(210) "Sorbent" means a material that is used to soak up free liquids by either adsorption or absorption, or both. Sorb means to either adsorb or absorb, or both.

(211) "Speculative accumulation" means materials that are accumulated 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% 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% requirement is to be applied to each material of the same type, such as slags from a single smelting process, that is recycled in the same way, such as 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 s. NR 605.05 (2) are not to be included in making the calculation. Materials that are already defined as solid wastes also are not to be included in making the calculation. Materials are no longer in this category once they are removed from accumulation for recycling, however.

(212) "Spent material" means 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.

(213) "State agency" means any department, board, commission, bureau or institution of state government, including the university of Wisconsin system.

(214) "Steam stripping operation" means a distillation operation in which vaporization of the volatile constituents of a liquid mixture takes place by the introduction of steam directly into the charge.

(215) "Storage" has the meaning specified under s. 291.01 (18), Stats. In addition, storage means the holding of hazardous waste for a temporary period, at the end of which period the hazardous waste is to be stored elsewhere.

(216) "Storage facility" means a facility, or part of a facility, which stores hazardous waste, except for a generation site where a generator stores its own waste in compliance with s. NR 610.08 (1) (l) or 615.05, or a transfer facility.

(217) "Subsidiary" means a corporation whose voting stock is at least 50% held by a parent corporation.

(218) "Substantial business relationship" means the extent of a business relationship necessary to make a guarantee contract issued incident to that relationship valid and enforceable. A substantial business relationship shall arise from a pattern of recent or ongoing business transactions, in addition to the guarantee itself, such that a currently existing business relationship between the guarantor and the owner or operator is demonstrated to the satisfaction of the department.

(219) "Sudden accidental occurrence" means an accidental occurrence which is not continuous or repeated in nature.

(220) "Sump" means any pit or reservoir that meets the definition of tank in this section and those troughs or trenches connected to it that serve to collect hazardous waste for transportation to hazardous waste treatment, storage or disposal facilities; except that as used in the landfill, surface impoundment, and waste pile rules, "sump" means any lined pit or reservoir that serves to collect liquids drained from a leachate collection and removal system or leak detection system for subsequent removal from the system.

(221) "Surface impoundment" has the meaning specified in s. 291.37 (1) (d), Stats.

(222) "Surge control tank" means a large-sized pipe or storage reservoir sufficient to contain the surging liquid discharge of the process tank to which it is connected.

(223) "Tangible assets" has the meaning specified in s. 289.41 (1) (f), Stats.

(224) "Tangible net worth" means the tangible assets that remain after deducting liabilities; the assets would not include intangibles such as good will and rights to patents or royalties.

(225) "Tank" means a stationary device, designed to contain an accumulation of hazardous waste which is constructed primarily of nonearthen materials, such as wood, concrete, steel or plastic which provides structural support.

Note: Other unit operations, such as presses, filters, sumps and other types of processing equipment may be tanks.

(226) "Tank system" means a hazardous waste storage or treatment tank and its associated ancillary equipment and containment system.

(227) "Tank system component" means either the tank or ancillary equipment of a tank system.

(228) "Termination" has the meaning specified under s. 289.01 (40), Stats.

(229) "Thermal treatment" means the treatment of hazardous waste in a device which uses elevated temperatures as the primary means to change the chemical, physical or biological character or composition of the hazardous waste.

Note: Examples of thermal treatment processes are incineration, molten salt, pyrolysis, calcination, wet air oxidation and microwave discharge.

(229m) "Thermostat" means a temperature control device that contains metallic mercury in an ampule attached to a bimetal sensing element, and mercury-containing ampules that have been removed from these temperature control devices.

Note: Sections NR 690.13 (3) (b) and 690.33 (3) (b) specify requirements for the removal of mercury-containing ampules from thermometers.

(230) "Thin-film evaporation operation" means a distillation operation that employs a heating surface consisting of a large diameter tube that may be either straight or tapered, horizontal or vertical. Liquid is spread on the tube wall by a rotating assembly of blades that maintain a close clearance from the wall or actually ride on the film of liquid on the wall.

(231) "Topsoil" means natural loam, sandy loam, silt loam, silt clay loam or clay loam humus-bearing soils or other material that will easily produce and sustain dense growths of vegetation capable of preventing wind and water erosion of the topsoil itself and other soils and materials beneath.

(232) "Totally enclosed treatment facility" means a facility for the treatment of hazardous waste which is directly connected

to a production process and which is constructed and operated in a manner which is designed to prevent the discharge of any hazardous waste or constituent thereof into the environment during treatment.

Note: Examples of totally enclosed treatment facilities are pipelines, tanks and pressure vessels which are completely contained on all sides. Another example is a pipe in which acid is neutralized.

(233) "Transfer facility" means any transportation related facility including loading docks, parking areas, storage areas and other similar areas where shipments of hazardous waste are held during the normal course of transportation in compliance with s. NR 620.14.

(234) "Transit country" means any foreign country, other than a receiving country, through which a hazardous waste is transported.

(235) "Transport" is defined in s. 291.01 (20), Stats. For the purpose of chs. NR 600 to 685, "transport" means the movement of hazardous wastes from generation sites or between hazardous waste facilities which are subject to or require a license under chs. NR 600 to 685 or under the resource conservation and recovery act.

(236) "Transport vehicle" means a motor vehicle or rail car, used for the transportation of cargo by any mode. Each cargo carrying body, such as a trailer or railroad car, is a separate transport vehicle.

(237) "Transportation service" means a service engaged in the off-site transport of hazardous waste by air, rail, highway or water.

(238) "Transporter" means the owner or operator of a transportation service licensed under ch. NR 620 and s. 291.23, Stats.

(239) "Treatability study" means:

(a) A study in which hazardous waste is subjected to a treatment process to determine:

1. Whether the waste is amenable to the treatment process,
2. What pretreatment, if any, is required,
3. The optimal process conditions needed to achieve the desired treatment,
4. The efficiency of a treatment process for a specific waste or wastes, or
5. The characteristics and volumes of residuals from a particular treatment process.

(b) Also included in this definition for the purpose of the s. NR 605.05 (8), (9), (10) and (11) exemptions are liner compatibility, corrosion and other material compatibility studies and toxicological and health effects studies. A treatability study is not a means to commercially treat or dispose of hazardous waste.

(240) "Treatment" has the meaning specified under s. 291.01 (21), Stats. In addition, treatment includes any method, technique or process, including neutralization, which follows generation and which is designed to change the physical, chemical or biological character or composition of any hazardous waste so as to render the waste less hazardous.

(241) "Treatment facility" has the meaning specified under s. 291.01 (22), Stats.

(242) "Triple rinsed" means that a container has been flushed 3 times, each time using a volume of diluent at least equal to 10% of the container's capacity.

(243) "24-hour, 25-year storm" means a storm of 24-hour duration with a probable recurrence interval of once in 25 years as determined under s. NR 205.05.

(244) "Underground injection" means the subsurface emplacement of fluids through a bored, drilled or driven well; or through a dug well, where the depth of the dug well is greater than the largest surface dimension.

Note: See also the definition of "injection" in this section.

(245) "Underground tank" means a tank whose entire surface area is totally below the surface of and covered by the ground.

(246) "Unequal annual outpayments" means estimated payments for long-term care which are higher in the early years of the period of owner responsibility for long-term care than they are later in the long-term period care after the facility has stabilized.

(247) "Unfit-for-use tank system" means a tank system that has been determined through an integrity assessment or other inspection to be no longer capable of storing or treating hazardous waste without posing a threat of release of hazardous waste to the environment.

(248) "Unit" means either a hazardous waste management unit or a solid waste management unit as defined in this section.

(249) "United States" means the 50 states, the District of Columbia, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa and the Commonwealth of the Northern Mariana Islands.

(249m) "Universal waste" means any of the following hazardous wastes that are managed under the universal waste requirements of ch. NR 690:

- (a) Batteries as described in s. NR 690.05.
- (b) Pesticides as described in s. NR 690.06.
- (c) Thermostats as described in s. NR 690.07.

(249p) "Universal waste handler" means a generator of universal waste or the owner or operator of a facility, including all contiguous property, that receives universal waste from other universal waste handlers, accumulates universal waste, and sends universal waste to another universal waste handler, to a destination facility, or to a foreign destination. Universal waste handler does not include a person who treats, disposes of or recycles universal waste, or a person engaged in the off-site transportation of universal waste by air, rail, highway or water, including a universal waste transfer facility.

Note: For purposes of this subsection, "treats, disposes of or recycles universal waste" does not include the management activities described in ss. NR 690.13 (1) and (3) and 690.33 (1) and (3).

(249z) "Universal waste transporter" means a person engaged in the off-site transportation of universal waste by air, rail, highway or water.

(250) "Unsaturated zone" means the zone between the land surface and the nearest saturated zone, in which the interstices are occupied partially by air.

(251) "Unsaturated zone monitoring system" means a system beneath a facility used to monitor water quality in the unsaturated zone as necessary to detect leaks from landfills and surface impoundments.

Note: An example of a system is a pressure-vacuum lysimeter.

(252) "Uppermost aquifer" means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

(253) "USDA" means the United States department of agriculture.

(254) "U.S. government securities" includes treasury bills, treasury bonds, treasury certificates, treasury notes, treasury stocks or other obligations guaranteed by the federal government.

(255) "Used oil" has the meaning specified under s. 299.53 (1) (a), Stats.

(256) "Used oil fuel" has the meaning specified under s. 299.53 (1) (b), Stats.

(257) "USGS" means the United States geological survey.

(258) "Vessel" means any description of watercraft, used or capable of being used as a means of transportation on the water.

(259) "Waste boundary" has the meaning in s. NR 140.22 (3) (a).

(260) "Waste minimization" means pollution prevention, beneficial use or reuse of a hazardous waste, and legitimate recovery or reclamation of a hazardous waste.

(261) "Wastewater treatment unit" means a device which:

(a) Is part of a wastewater treatment facility that is subject to regulation under ch. 283, Stats.; and

(b) Receives and treats or stores an influent wastewater that meets the criteria for hazardous waste in s. NR 605.04, or generates and accumulates a wastewater treatment sludge that meets the criteria for hazardous waste in s. NR 605.04 or treats or stores a wastewater treatment sludge that is a hazardous waste as defined in s. NR 605.04; and

(c) Meets the definition of tank or tank system in this section.

Note: Certain wastewater treatment sludge management units may be considered wastewater treatment units under this definition. For example, plate and frame filter presses, belt presses and dryers that treat or generate sludges that are hazardous wastes may be wastewater treatment units.

(262) "Water table" means the upper surface of the saturation zone in groundwaters where the hydrostatic pressure is equal to atmospheric pressure.

(263) "Well" means a bored, drilled or driven shaft, or a dug hole where the depth of the dug hole is greater than the largest surface dimension, and which is terminated above, within or below an aquifer.

(264) "Well nest" means 2 or more wells installed within 10 feet of each other at the ground surface and constructed to varying depths.

(265) "Wetlands" means those areas where water is at, near or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation, and which have soils indicative of wet conditions.

(266) "WPDES permit" means the Wisconsin pollution discharge elimination system permit issued by the department under ch. 283, Stats., for the discharge of pollutants.

(267) "Zone of engineering control" means an area, under the control of an owner or operator that, upon detection of a hazardous waste release, can be readily cleaned up prior to the release of hazardous waste or hazardous constituents to ground water or surface water.

History: Cr. Register, February, 1991, No. 422, eff. 3-1-91; cr. (139), Register, May, 1992, No. 437, eff. 6-1-92; am. (59), (64), (81), (85) and (89), cr. (108m), (148m) and (237m), Register, August, 1992, No. 440, eff. 9-1-92; correction in (217) (b) made under s. 13.93 (2m) (b) 7., Stats., Register, August, 1990, No. 440; r. (148m) and (237m), renum. (9) to (23) and (26) to (244) to be (10) to (23) and (26), (27) to (29), (31) to (44), (46), (48), (50) to (62), (64) to (65), (68) to (83), (85), (87) to (89), (91) to (111), (114) to (178), (180) to (191), (193) to (208), (211) to (213), (215) to (221), (223) to (229), (231) to (259) and (261) to (267) and am. (22), (56), (62), (65), (68) (a) and (b), (72), (78), (92), (126), (129), (150), (211), (220), (239) (b), (248) and (261) (c), cr. (9), (30) (45) to (47), (49), (63), (66), (67), (84), (86), (90), (112), (113), (179), (192), (209), (210), (214), (222), (230) and (260), Register, May, 1995, No. 473, eff. 6-1-95; cr. (18m), (23m), (56m), (171m), (229m), (249m), (249p) and (249z), am. (92), (94), and (218), Register, May, 1998, No. 509, eff. 6-1-98; corrections made under s. 13.93 (2m) (b) 7., Stats., Register, May, 1998, No. 509; corrections in (221) and (266) made under s. 13.93 (2m) (b) 7., Stats.

NR 600.04 Prohibited activities. (1) Underground injection of any hazardous waste through a well is prohibited.

Note: Section NR 812.05 prohibits the use of any well for the disposal of solid wastes, sewage, surface water or wastewater.

(2) Land treatment of any hazardous waste is prohibited.

(3) The use of solid waste, used oil or other material which is contaminated or mixed with any hazardous waste for dust suppression or road treatment is prohibited. The use of solid waste, used oil or other material which meets the criteria for hazardous waste under s. NR 605.04, for dust suppression or road treatment is prohibited.

(4) The placement of any noncontainerized or bulk hazardous waste in any salt dome formation, salt bed formation, underground mine or cave is prohibited.

History: Cr. Register, February, 1991, No. 422, eff. 3-1-91.

NR 600.05 Notification of hazardous waste activities. (1) **EXISTING ACTIVITIES.** Any person who on or after August 1, 1981, generates or transports hazardous waste, or owns or operates a recycling facility or a facility for the treatment, storage or disposal of a hazardous waste, shall, within 90 days of the effective date of the applicable rule, notify the department and EPA of the activities, unless that person has previously notified

the EPA in compliance with the preliminary notification requirements of 42 USC 6930, or is otherwise exempted from this requirement under s. NR 610.05 (1).

(2) NEW ACTIVITIES. Any person who will generate or transport hazardous waste, or any person who will own or operate a recycling facility or a facility for the treatment, storage or disposal of hazardous waste shall, notify the department and EPA at least 30 days prior to the initiation of these activities, unless the person is otherwise exempted from this requirement under s. NR 610.05 (1).

Note: Chapter NR 610 does not exempt small quantity generators who recycle, treat or dispose of their waste on-site from the notification requirements of this section. The generators are considered owners or operators of a recycling, treatment or disposal facility under chs. NR 600 to 685.

(3) SEPARATE FORMS REQUIRED. Separate notification forms shall be submitted to the department and EPA in accordance with sub. (1) or (2) for each generation site, transportation service, recycling facility and hazardous waste facility.

Note: In order to obtain an identification number, a notification form shall be filed in accordance with this section.

(4) CONTENTS OF NOTIFICATION FORM. The notification form shall be provided by the department upon request and shall contain the following information:

(a) The name of the generation site, transportation service or facility.

(b) The mailing address of the generation site, transportation service, or facility.

(c) The location of the generation site, transportation service or facility.

(d) The name and telephone number of a responsible individual at the generation site, transportation service or facility who can be contacted for clarification of information submitted in the notification.

(e) The name of the operator and the owner of the generation site, transportation service or facility.

(f) The types of hazardous waste activity conducted, such as:

1. The generation, transportation, treatment, storage or disposal of hazardous waste either on the site of hazardous waste generation or off-site.

2. Used oil fuel activities.

(g) The type of combustion device for waste fuel burning.

(h) The mode of transportation.

(i) Whether this is the first, or a subsequent, notification of hazardous waste activities.

(j) A description of the hazardous wastes generated, transported, treated, stored or disposed.

1. For hazardous wastes from non-specific sources, the hazardous waste number from table II in s. NR 605.09 (2) (a) for each listed hazardous waste.

2. For hazardous wastes from specific sources, the hazardous waste number from table III in s. NR 605.09 (2) (b) for each listed hazardous waste.

3. For commercial chemical product hazardous wastes, the hazardous waste number from tables IV and V in s. NR 605.09 (3) (b) and (c) for each chemical substance listed.

4. For non-listed hazardous wastes, the hazardous waste number from s. NR 605.08 for each ignitable, corrosive, reactive or toxic waste as determined under s. NR 605.08.

(k) A certification stating "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submittal information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment", shall be signed by the owner or

operator, or an authorized representative, of the generation site, transportation service or facility.

Note: The notification form may be obtained from the Department of Natural Resources, P.O. Box 8094, Madison, Wisconsin 53708 at no charge.

History: Cr. Register, February, 1991, No. 422, eff. 3-1-91.

NR 600.06 Confidentiality of information. (1) Except as provided under sub. (2), any records, reports or other information furnished to or obtained by the department in the administration of ch. 291, Stats., are public records subject to the provisions of ss. 19.31 to 19.39, Stats., and s. NR 2.195.

(2) If confidential status is sought for records, reports or other information furnished to or obtained by the department under ch. 291, Stats., the standards and procedures in s. 291.15, Stats., and s. NR 2.19 shall be applied.

(3) Except for emission data, the name and address of any person applying for a license under chs. NR 600 to 685, or a licensee, for which the department may not grant confidential status, the department shall grant confidential status for any records, reports or other information received by the department and certified by the owner or operator of the facility to be related to production or sales figures or to processes or production unique to the owner or operator or which would tend to adversely affect the competitive position of the owner or operator if made public.

(4) Records, reports and other information that have been granted confidential status:

(a) May be used by the department in compiling or publishing analyses or summaries relating to the general condition of the environment if the analyses or summaries do not identify a specific owner or operator or the analyses or summaries do not reveal records or other information granted confidential status; and

(b) May be released by the department to the EPA or its authorized representative, if the department includes in each release of records, reports or other information a request to EPA or its authorized representative to protect the confidentiality of the records, reports or other information;

(c) May be released for general distribution if the owner or operator expressly agreed to the release; and

(d) May be released on a limited basis if the department is directed to take this action by a judge or hearing examiner under an order which protects the confidentiality of the records, reports or other information.

(5) Notwithstanding sub. (2), any records, reports or other information submitted to the department or EPA that is information required by s. NR 615.12 and 40 CFR 262.83 that is submitted in a notification of intent to export a hazardous waste will be provided to the U.S. department of state and the appropriate authorities in the transit and receiving or importing countries regardless of any claims of confidentiality. However, if no claim accompanies the information when it is received by EPA, it may be made available to the public without further notice to the person submitting it.

History: Cr. Register, February, 1991, No. 422, eff. 3-1-91; cr. (5), Register, May, 1998, No. 509, eff. 6-1-98; corrections made under s. 13.93 (2m) (b) 7., Stats., Register, May, 1998, No. 509.

NR 600.07 Special requirements where a discharge has occurred or is likely to occur. (1) The department may require any owner or operator of a recycling facility, or other hazardous waste facility which is otherwise not required to comply with the requirements of chs. NR 630 to 675 and the plan review and licensing requirements of ch. NR 680, to comply with all or part of the requirements of ch. NR 680 where compliance with the requirements is necessary to protect public health, safety or welfare or the environment, if the department determines that:

(a) Hazardous waste or hazardous waste constituents have been discharged at the facility; or

(b) Existing control measures are inadequate to prevent a discharge of hazardous waste or hazardous constituents at the facility.

(2) The department may require any generator or transporter to comply with all or part of the requirements of s. NR 600.05 and chs. NR 630 to 685 where compliance with the requirements is necessary to protect public health, safety or welfare or the environment, if the department determines that:

(a) Hazardous waste or hazardous waste constituents have been discharged since May 20, 1978 at the generation site or transportation service location; or

(b) Existing control measures are inadequate to prevent a discharge at the generation site or transportation service location.

History: Cr. Register, February, 1991, No. 422, eff. 3-1-91; correction in (2) (intro.) made under s. 13.93 (2m) (b) 7., Stats., Register, March, 1993, No. 447.

NR 600.08 Review time periods. Except as otherwise provided in chs. NR 600 to 685, the department shall review, and approve, deny or deem incomplete, requests for approvals or exemptions within 65 business days after receiving the request.

Note: Saturdays, Sundays and those holidays designated in s. 230.35 (4) (a), Stats., are not included in counting business days. Sixty-five business days is roughly equivalent to 90 calendar days.

Many of the review time periods in chs. NR 600 to 685 are specified in "days," i.e. calendar days, instead of business days, because chs. 289 to 292, Stats., specify several review time periods in calendar days. It is not possible to specify all the review time periods in chs. NR 600 to 685 in calendar days, however, because s. 227.116, Stats., requires that review time periods which were not established by statute or rule prior to November 17, 1983 be specified in business days.

History: Cr. Register, February, 1991, No. 422, eff. 3-1-91.

NR 600.09 Waivers. Notwithstanding any other provision in chs. NR 600 to 685, in the event of an emergency condition threatening public health, safety or welfare or the environment, the department may issue a waiver to allow treatment, storage or disposal of hazardous waste not covered by a license, to waive compliance with any requirement of ch. 291, Stats., or to shorten any time period provided under ch. 291, Stats. A waiver:

(1) May be oral or written. If oral, it shall be followed within 5 business days by written authorization. The applicant who submits a written request for emergency authorization shall be advised, in writing, by the department of approval or disapproval of the request within 15 business days after receipt of the request.

(2) Except for the activities under sub. (3), may not exceed 90 days in duration.

(3) (a) May be issued to a person engaged in treatment or containment activities associated with an immediate response to:

1. A discharge of hazardous waste;
2. A discharge of materials or items which, when discharged, become a hazardous waste; or

Note: These materials or items are listed in s. NR 605.09 (3) (b), table IV and (c), table V.

3. An imminent and substantial threat of a discharge of hazardous waste.

(b) A person issued a waiver under par. (a):

1. Shall comply with ss. NR 630.21 and 630.22 (1) and (2);
2. Shall conduct treatment or containment activities in units designed, constructed and operated to minimize the discharge of hazardous waste or constituents thereof, unless a discharge is in compliance with chs. NR 400 to 499 for a discharge to the ambient air or ch. 283, Stats., for a discharge to the waters of this state.

(4) Shall clearly specify wastes to be received, and the manner and location of their treatment, storage or disposal.

(5) May be revoked by the department at any time if it is determined that revocation is appropriate to protect human health and the environment.

(6) Shall incorporate, to the extent possible and not inconsistent with the emergency situation, all applicable requirements of chs. NR 600 to 685.

(7) Shall be accompanied by a public notice including:

(a) The name and address of the department office granting the emergency waiver,

(b) The name and location of the hazardous waste facility receiving the waiver,

(c) A brief description of the waiver and the reasons for granting it,

(d) The duration of the waiver, and

(e) A brief description of the wastes involved.

History: Cr. Register, February, 1991, No. 422, eff. 3-1-91; am. (2), Register, May, 1995, No. 473, eff. 6-1-95; corrections made under s. 13.93 (2m) (b) 7., Stats., Register, May, 1998, No. 509.

NR 600.10 Incorporation by reference. (1) CODE OF FEDERAL REGULATIONS. The federal regulations or appendix materials listed in this subsection are incorporated by reference in the corresponding paragraphs of this subsection. Copies of these materials are available for inspection in the offices of the department of natural resources, secretary of state and revisor of statutes, Madison, Wisconsin or may be purchased for personal use from:

Superintendent of Documents
U.S. Government Printing Office
PO Box 371954
Pittsburgh, PA 15250-7954
(202) 783-3238

(a) 40 CFR 60, Appendix A, July 1, 1993, Reference Methods 1 to 5 and 10, U.S. environmental protection agency regulations on reference methods for the analysis of stack gases from stationary sources, for ss. NR 665.07 (2) (a) 10., 665.09 (15) (f), 631.07 (3) (a) 1. and 631.06 (2) (e) 3.

(b) 40 CFR 60, Method 18, for ss. NR 631.06 (2) (e) 2. and 631.07 (3) (a) 2.

(c) 40 CFR 60, Method 21, for ss. NR 631.07 (2) (a) and 632.08 (2) (a).

(d) 40 CFR 60, Method 22, for s. NR 631.06 (2) (e) 1.

(e) 40 CFR 60, subpart VV and 40 CFR 61 subpart V, for s. NR 632.09 (13).

(f) 40 CFR 264, Appendix IV, July 1, 1990 definition of Cochran's Approximation to the Behrens-Fisher student's t-test, for s. NR 635.12 (14) (a) 1.

(g) 49 CFR 173.51, October 1, 1993, definition of "forbidden explosives", 49 CFR 173.53, October 1, 1993, definition of "Class A explosives" and 49 CFR 173.88, October 1, 1993, definition of "Class B explosives", for s. NR 605.08 (4) (a) 8.

(h) 49 CFR 173.300, October 1, 1993, definition of "compressed gas", for s. NR 605.08 (2) (a) 3.

(2) OTHER MATERIALS. The materials listed in this subsection are incorporated by reference in the corresponding paragraphs noted. Some materials that are incorporated by reference in other references are hereby incorporated by reference and made a part of this subsection. The materials are available for inspection in the offices of the department of natural resources, secretary of state and revisor of statutes, Madison, Wisconsin or may be purchased for personal use at the corresponding address noted.

(a) American Society for Testing and Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959

Note: The references listed in this subsection are also available for inspection at:
Office of the Federal Register
800 North Capitol St., NW.
Suite 700
Washington, D.C.

1. ASTM standard D-93-85, "Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester", for s. NR 605.08 (2) (a) 1.

3. ASTM standard D-2216-80, "Standard Method for Laboratory Determination of Water (Moisture) Content of Soil, Rock, and Soil-Aggregate Mixtures", for s. NR 660.13 (2) (b) 3. e.

4. ASTM standard D-573-81, "Standard Test Method for Rubber - Deterioration in an Air Oven", incorporated by reference in National Sanitation Foundation Standard 54, "Flexible Membrane Liners", November, 1983, for ss. NR 660.08 (2) (j) (intro), 660.09 (7) and 660.13 (2) (b) 4.
5. ASTM standard D-323-82, "Standard Test Method for Vapor Pressure of Petroleum Products (REID Method)", from the Annual Book of ASTM Standards - 1980, for s. NR 605.08 (2) (a) 3.
6. ASTM standard D-346-78, "Standard Method of Collection and Preparation of Coke Samples for Laboratory Analysis", for ch. NR 605 - Appendix I (2).
7. ASTM standard D-2136-66 (reapproved 1978), "Standard Method of Testing Coated Fabrics - Low Temperatures Bend Test", incorporated by reference in National Sanitation Foundation Standard 54, "Flexible Membrane Liners", November, 1983, for ss. NR 660.08 (2) (j) (intro), 660.09 (7) and 660.13 (2) (b) 4.
8. ASTM standard D-618-61 (reapproved 1981), "Standard Methods of Conditioning Plastics and Electrical Insulating Materials for Testing", incorporated by reference in National Sanitation Foundation Standard 54, "Flexible Membrane Liners", November, 1983, for ss. NR 660.08 (2) (j) (intro), 660.09 (7) and 660.13 (2) (b) 4.
9. ASTM standard D-140-70 (reapproved 1981), "Standard Methods of Sampling Bituminous Materials", for ch. NR 605 - Appendix I (1).
10. ASTM standard D-2487-69 (reapproved 1975), "Standard Test Method for Classification of Soils for Engineering Purposes", for ss. NR 600.03 (27), 660.06 (1) (g) 2., 660.18 (11) (c) 3. and (d) 5. and 660.21 (1) (c) 5.
11. ASTM standard D-1140-54 (reapproved 1971), "Standard Test Method for Amount of Material in Soils Finer Than the No. 200 (75- μ m) Sieve", for ss. NR 660.09 (8) (b) 2., 660.13 (2) (b) 3. i. and 660.18 (11) (d) 3. and 4.
12. ASTM standard D-423-66 (reapproved 1972), "Standard Test Method for Liquid Limits of Soils", for ss. NR 660.09 (8) (b) 3., 660.13 (2) (b) 3. f. and 660.18 (11) (d) 6.
13. ASTM standard D-624-81, "Standard Test Method for Rubber Property-Tear Resistance", incorporated by reference in National Sanitation Foundation Standard 54, "Flexible Membrane Liners", November, 1983, for ss. NR 660.08 (2) (j) (intro), 660.09 (7) and 660.13 (2) (b) 4.
14. ASTM standard D-1149-81, "Standard Test Method for Rubber Deterioration - Surface Ozone Cracking in a Chamber (Flat Specimen)", incorporated by reference in National Sanitation Foundation Standard 54, "Flexible Membrane Liners", November, 1983, for ss. NR 660.08 (2) (j) (intro), 660.09 (7) and 660.13 (2) (b) 4.
15. ASTM standard D-1239-55 (reapproved 1982), "Standard Test Method for Resistance of Plastic Films to Extraction by Chemicals", incorporated by reference in National Sanitation Foundation Standard 54, "Flexible Membrane Liners", November, 1983, for ss. NR 660.08 (2) (j) (intro), 660.09 (7) and 660.13 (2) (b) 4.
16. ASTM standard D-412-80, Standard Test Methods for Rubber Properties in Tension", incorporated by reference in National Sanitation Foundation Standard 54, "Flexible Membrane Liners", November, 1983, for ss. NR 660.08 (2) (j) (intro), 660.09 (7) and 660.13 (2) (b) 4.
17. ASTM standard D-1593-81, "Standard Specification for Nonrigid Vinyl Chloride Plastic Sheeting", incorporated by reference in National Sanitation Foundation Standard 54, "Flexible Membrane Liners", November, 1983, for ss. NR 660.08 (2) (j) (intro), 660.09 (7) and 660.13 (2) (b) 4.
18. ASTM standard D-2937-71 (reapproved 1976), "Standard Test Method for Density of Soil in Place by the Drive-Cylinder Method", for s. NR 660.13 (2) (b) 3. c. and 5. d.
19. ASTM Standard D-3083-76 (reapproved 1980), "Standard Specification for Flexible Poly (vinyl chloride) Plastic Sheeting for Pond, Canal, and Reservoir Lining", incorporated by reference in National Sanitation Foundation Standard 54, "Flexible Membrane Liners", November, 1983, for ss. NR 660.08 (2) (j) (intro), 660.09 (7) and 660.13 (2) (b) 4.
20. ASTM standard D-746-79, "Standard Test Method for Brittleness Temperature of Plastics and Elastomers by Impact", incorporated by reference in National Sanitation Foundation Standard 54, "Flexible Membrane Liners", November, 1983, for ss. NR 660.08 (2) (j) (intro), 660.09 (7) and 660.13 (2) (b) 4.
21. ASTM standard D-751-79, "Standard Methods for Testing Coated Fabrics", incorporated by reference in National Sanitation Foundation Standard 54, "Flexible Membrane Liners", November, 1983, for ss. NR 660.08 (2) (j) (intro), 660.09 (7) and 660.13 (2) (b) 4.
22. ASTM standard D-792-66 (reapproved 1979), "Standard Test Methods for Specific Gravity and Density of Plastics by Displacement", incorporated by reference in National Sanitation Foundation Standard 54, "Flexible Membrane Liners", November, 1983, for ss. NR 660.08 (2) (j) (intro), 660.09 (7) and 660.13 (2) (b) 4.
23. ASTM standard D-882-81, "Standard Test Methods for Tensile Properties of Thin Plastic Sheeting", incorporated by reference in National Sanitation Foundation Standard 54, "Flexible Membrane Liners", November, 1983, for ss. NR 660.08 (2) (j) (intro), 660.09 (7) and 660.13 (2) (b) 4.
24. ASTM standard D-422-63 (reapproved 1972), "Standard Method for Particle-Sized Analysis of Soils", for ss. NR 660.09 (8) (b) 1., 660.13 (2) (b) 3. h. and 5. c. and 660.18 (11) (d) 3.
25. ASTM standard D-2240-81, "Standard Test Method for Rubber Property-Durometer Hardness", incorporated by reference in National Sanitation Foundation Standard 54, "Flexible Membrane Liners", November, 1983, for ss. NR 660.08 (2) (j) (intro), 660.09 (7) and 660.13 (2) (b) 4.
26. ASTM standard D-1004-66 (reapproved 1981), "Standard Test Method for Initial Tear Resistance of Plastic Film and Sheeting", incorporated by reference in National Sanitation Foundation Standard 54, "Flexible Membrane Liners", November, 1983, for ss. NR 660.08 (2) (j), 660.09 (7) and 660.13 (2) (b) 4.
27. ASTM Standard D-1203-67 (reapproved 1981), "Standard Test Methods for Volatile Loss from Plastics using Activated Carbon Methods", incorporated by reference in National Sanitation Foundation Standard 54, "Flexible Membrane Liners", November, 1983, for ss. NR 660.08 (2) (j) (intro), 660.09 (7) and 660.13 (2) (b) 4.
28. ASTM standard D-638-82a, "Standard Test Method for Tensile Properties of Plastics", incorporated by reference in National Sanitation Foundation Standard 54, "Flexible Membrane Liners", November, 1983, for ss. NR 660.08 (2) (j) (intro), 660.09 (7) and 660.13 (2) (b) 4.
29. ASTM standard D-420-69 (reapproved 1979), "Standard Recommended Practice for Investigating and Sampling Soil and Rock for Engineering Purposes", for ch. NR 605 - Appendix I (3).
30. ASTM standard D-424-59 (reapproved 1971), "Standard Test Method for Plastic Limit and Plasticity Index of Soils", for ss. NR 660.09 (8) (b) 4., 660.13 (2) (b) 3. g. and 660.18 (11) (d) 7.
31. ASTM standard D-1556-82, "Standard Test Method for Density of Soil in Place by the Sand-Cone Method", for s. NR 660.13 (2) (b) 3. c. and 5. d.

32. ASTM standard D-1204-78, "Standard Test Method for Linear Dimensional Changes of Nonrigid Thermoplastic Sheet or Film at Elevated Temperature", incorporated by reference in National Sanitation Foundation Standard 54, "Flexible Membrane Liners", November, 1983, for ss. NR 660.08 (2) (j) (intro), 660.09 (7) and 660.13 (2) (b) 4.

33. ASTM standard D-808-91, "Standard Test Method for Chlorine in New and Used Petroleum Products (Bomb Method)", for s. NR 605.09 (2) (a) F500.

34. ASTM standard D-1693-70 (reapproved 1980), "Standard Test Method for Environmental Stress-Cracking of Ethylene Plastics", incorporated by reference in National Sanitation Foundation Standard 54, "Flexible Membrane Liners", November, 1983, for ss. NR 660.08 (2) (j) (intro), 660.09 (7) and 660.13 (2) (b) 4.

35. ASTM standard D-413-82, "Standard Test Methods for Rubber Property-Adhesion to Flexible Substrate", incorporated by reference in National Sanitation Foundation Standard 54, "Flexible Membrane Liners", November, 1983, for ss. NR 660.08 (2) (j) (intro), 660.09 (7) and 660.13 (2) (b) 4.

36. ASTM standard D-698-78, "Standard Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 5.5 lb. (2.49 kg) Rammer and 12 in. (305 mm) Drop", for s. NR 660.13 (2) (b) 3. d.

37. ASTM standard D-2234-76, "Standard Method for Collection of a Gross Sample of Coal", for ch. NR 605 - Appendix I (5).

38. ASTM standard D-471-79, "Standard Test Method for Rubber Property-Effect of Liquids", incorporated by reference in National Sanitation Foundation Standard 54, "Flexible Membrane Liners", November, 1983, for ss. NR 660.08 (2) (j) (intro), 660.09 (7) and 660.13 (2) (b) 4.

39. ASTM standard D-1452-80, "Standard Practice for Soil Investigation and Sampling by Auger Borings", for ch. NR 605 - Appendix I (4).

40. ASTM standard D-1557-78, "Standard Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10-lb. (4.54 kg) Rammer and 18 in. (457 mm) Drop", for ss. NR 660.13 (2) (b) 3. d., 660.18 (11) (d) 8., 660.20 (1) (a) 2. b. and 660.21 (1) (e) 3.

41. ASTM standard D-2922-81, "Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)", for s. NR 660.13 (2) (b) 3. c. and 5. d.

42. ASTM standard D-1790-62 (reapproved 1976), "Standard Test Method for Brittleness Temperature of Plastic Film by Impact", incorporated by reference in National Sanitation Foundation Standard 54, "Flexible Membrane Liners", November, 1983, for ss. NR 660.08 (2) (j) (intro), 660.09 (7) and 660.13 (2) (b) 4.

43. ASTM standard D-3278-78, "Standard Test Methods for Flash Point of Liquids by Setaflash Closed Tester", for s. NR 605.08 (2) (a) 1.

44. ASTM standard D-297-81, "Standard Methods for Rubber Products - Chemical Analysis", incorporated by reference in National Sanitation Foundation Standard 54, "Flexible Membrane Liners", November, 1983, for ss. NR 660.08 (2) (j) (intro), 660.09 (7) and 660.13 (2) (b) 4.

45. ASTM standard D-1946-82, "Standard Method for Analysis reformed Gas by Gas Chromatography," for s. NR 631.06 (2) (e) 2.

46. ASTM standard D-2382-83, "Standard Test Method for Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter," for s. NR 631.06 (2) (e) 2.

47. ASTM standard D-2267-88, "Standard Test Method for Aromatics in Light Napthas and Aviation Gasolines by Gas Chromatography," for s. NR 632.08 (4) (a).

48. ASTM standard E-169-87, "Standard Practices for General Techniques of Ultraviolet-Visible Quantitative Analysis," for s. NR 632.08 (4) (a).

49. ASTM standard E-168-88, "Standard Practices for General Techniques of Infrared Quantitative Analysis," for s. NR 632.08 (4) (a).

50. ASTM standard E-260-85, "Standard Practice for Packed Column Gas Chromatography," for s. NR 632.08 (4) (a).

51. ASTM standard D-2879-86, "Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteriscope," for s. NR 632.08 (8).

52. "ASTM Standard Test Methods for Preparing Refuse-Derived Fuel (RDF) Samples for Analyses of Metals," ASTM Standard E926-94, Test Method C-Bomb, Acid Digestion Method.

53. API Publication 2517, Third Edition, February 1989, "Evaporative Loss from External Floating-Roof Tanks."

Note: This publication is available from:
American Petroleum Institute
1220 L Street, NW
Washington, D.C. 20005

54. "ASTM Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope," ASTM Standard D 2879-96.

(b) U.S. Environmental Protection Agency Office of Solid Waste

Available from:

National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161
(703) 487-4650

1. SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", third edition, November 1986, as amended by updates I in July, 1992, II in September 1994, IIA in August 1993, IIB in January 1995 and III in December 1996, for ss. NR 600.03 (92), 605.04 (1) (b) 9., 605.08 (3) (a) 1. and 2., 605.09 (2) (a) F500, 605 Appendix II, 631.07 (4) (a) 3., 631.08(4) (b), 633.03 (24), 633.06 (1) (c) 2.c., 3.(intro.), f. and g., (2) (c) 2.c., 3.(intro.), f. and g. and (3) (c) 1. intro., 645.09 (1), 660.18 (7), 665.06 (1) (d) 1. d., (d) 2., (e) 1. c. and d., and 675.07 (1) (a), (b), (h), (2) (a), (3) (b), 675.13 (4), and 675.20 (2) (c), (7) and Treatment Standards for Hazardous Wastes Table Note 7.

2. EPA-600/8-84-002, Report on "Sampling and Analysis Methods for Hazardous Waste Combustion" (on Microfiche), for ss. NR 665.06 (1) (d) 1. d., (d) 2., (e) 1. c., and d., 665.07 (2) (a) 10. and 665.09 (15) (f).

3. EPA-450/R-92-019, "Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised" October 1992, Research Triangle Park, NC, for ss. NR 631.08 (2) (d) 3., 632.11 (2) (d) 3. and 632.11 (3) (e) 3.

(c) U.S. Environmental Protection Agency Office of Solid Waste

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SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", third edition, November 1986, as amended by updates I in July 1992, II in September 1994, IIA in August 1993, IIB in January 1995, and III in December 1996, GPO document number 955-001-000000-1, for ss. NR 600.03 (92), 605.04 (1) (b) 9., 605.08 (3) (a) 1. and 2., 605.09 (2) (a) F500, 605 Appendix II, 631.07 (4) (a) 3., 631.08 (4) (b), 633.03 (24), 633.06

(1) (c) 2.c., 3.(intro.), f. and g., (2) (c) 2.c., 3.(intro.), f. and g. and (3) (c) 1.intro., 645.09 (1), 660.18 (7), 665.06 (1) (d) 1.d. and 2., (e) 1.c. and d. and 675.07 (1) (a), (b), (h), (2) (a), (3) (b), 675.13 (4) and 675.20 (2) (c), (7) and Treatment Standards for Hazardous Wastes Table Note 7.

- 0010 Modified Method 5 Sampling Train
- 0020 Source Assessment Sampling System (SASS)
- 0030 Volatile Organic Sampling Train
- 1320 Multiple Extraction Procedure
- 1330 Extraction Procedure for Oily Wastes
- 3611 Alumina Column Cleanup and Separation of Petroleum Wastes
- 5040 Protocol for Analysis of Sorbent Cartridges from Volatile Organic Sampling Train
- 6010 Inductively Coupled Plasma Atomic Emission Spectroscopy
- 7090 Beryllium (AA, Direct Aspiration)
- 7091 Beryllium (AA, Furnace Technique)
- 7198 Chromium, Hexavalent (Differential Pulse Polarography)
- 7210 Copper (AA, Direct Aspiration)
- 7211 Copper (AA, Furnace Technique)
- 7380 Iron (AA, Direct Aspiration)
- 7381 Iron (AA, Furnace Technique)
- 7460 Manganese (AA, Direct Aspiration)
- 7461 Manganese (AA, Furnace Technique)
- 7550 Osmium (AA, Direct Aspiration)
- 7770 Sodium (AA, Direct Aspiration)
- 7840 Thallium (AA, Direct Aspiration)
- 7841 Thallium (AA, Furnace Technique)
- 7910 Vanadium (AA, Direct Aspiration)
- 7911 Vanadium (AA, Furnace Technique)
- 7950 Zinc (AA, Direct Aspiration)
- 7951 Zinc (AA, Furnace Technique)
- 9022 Total Organic Halides (TOX) by Neutron Activation Analysis
- 9035 Sulfate (Colorimetric, Automated, Chloranilate)
- 9036 Sulfate (Colorimetric, Automated, Methylthymol Blue, AA II)
- 9038 Sulfate (Turbidimetric)
- 9060 Total Organic Carbon
- 9065 Phenolics (Spectrophotometric, Manual 4–AAP with Distillation)
- 9066* Phenolics (Colorimetric, Automated 4–AAP with Distillation)
- 9067 Phenolics (Spectrophotometric, MBTH with Distillation)
- 9070 Total Recoverable Oil and Grease (Gravimetric, Separatory Funnel Extraction)
- 9071 Oil and Grease Extraction Method for Sludge Samples
- 9080 Cation–Exchange Capacity of Soils (Ammonium Acetate)

- 9081 Cation–Exchange Capacity of Soils (Sodium Acetate)
- 9100 Saturated Hydraulic Conductivity, Saturated Leachate Conductivity, and Intrinsic Permeability
- 9131 Total Coliform: Multiple Tube Fermentation Technique
- 9132 Total Coliform: Membrane Filter Technique
- 9200 Nitrate
- 9250 Chloride (Colorimetric, Automated Ferricyanide AAI)
- 9251 Chloride (Colorimetric, Automated Ferricyanide AAI)
- 9252 Chloride (Titrimetric, Mercuric Nitrate)
- 9310 Gross Alpha and Gross Beta
- 9315 Alpha–Emitting Radium Isotopes
- 9320 Radium–228

¹The department notes that, for guidance purposes, the Third Edition and its revision I supersede the Second Edition and its updates I and II. However, for regulatory purposes, the Second Edition and updates I and II remain in effect together with the 47 methods of the Third Edition and revisions I cited above. See 54 FR 40260–40269, September 29, 1989.

* When Method 9066 is used it shall be preceded by the manual distillation specified in procedure 7.1 of Method 9065. Just prior to distillation in Method 9065, adjust the sulfuric acid–preserved sample to pH 4 with 1 + 9 NaOH. After the manual distillation is completed, the autanalyzer manifold is simplified by connecting the re-sample line directly to the sampler.

(d) National Sanitation Foundation
P.O. Box 1468
Ann Arbor, MI 48106

National Sanitation Foundation Standard 54 for Flexible Membrane Liners, as prepared by the Joint Committee on Flexible Membrane liners and Recommended for Adoption by the NSF Council of Public Health Consultants, Adopted by the NSF Board of Trustees, November, 1983, for ss. NR 660.08 (2) (j) (intro), 660.09 (7) and 660.13 (2) (b) 4. (intro).

(e) Superintendent of Documents
U.S. Government Printing Office
P.O. Box 371954
Pittsburgh, PA 15250–7954
(202) 783–3238

The Standard Industrial Classification (SIC) Manual, 1972, as amended by the 1977 Supplement, U.S. Government Printing Office Stock Numbers 4101–0066 and 003–005–00176–0, respectively, for s. NR 605.09 (2) (b) Table III, K062.

History: Cr. Register, February, 1991, No. 422, eff. 3–1–91; am. (1) (intro.), (2) (b) 1., 2. and (d), r. (1) (a), (c), (d), (f) to (j), (m), (n), (2) (a) 1. and (e), cr. (1) (b) and (d), renum. (1) (b), (e), (k) and (l) to be (1) (a), (c), (e) and (f) and am., renum. (2) (a) 2. to 43. to be 1., 43., 5., 6., 37., 9., 29., 39., 10., 24., 11., 12., 30., 31., 40., 41., 18., 36., 3., 33., 34., 42., 19. to 23., 26., 27., 32., 17., 28., 15., 8., 35., 7., 16., 13., 38., 25., 14., and 4. and am. 5., 10., 40. and 41., Register, August, 1992, No. 440, eff. 9–1–92; corrections made under s. 13.93 (2m) (b) 7., Stats., Register, August, 1992, No. 440; am. (1) (intro.), (a), (2) (a) (intro.), 10., 33., (b) (intro.), 1., r. (1) (b) and (d), renum. (1) (c), (e), (f), (2) (c), (d) to be (1) (f) to (h), (2) (d) and (e) and am. (1) (g), (h) and (2) (e), cr. (2) (a) 45. to 51., (b) 3., (c), Register, May, 1995, No. 473, eff. 6–1–95; corrections made under s. 13.93 (2m) (b) 7., Stats., Register, May, 1995, No. 473; am. (1) (e), (2) (a), (a) 48., (2) (b), (b) 1 and 3., cr. (2) (a), repeal and recr. (2) (c), Register, May, 1998, No. 509.

NR 600.11 Enforcement. (1) PROCEDURE. If the department has reason to believe that there has been a violation of ch. 291, Stats., ch. NR 101 or chs. NR 600 to 685, or any special order, plan approval or term or condition of a license or variance issued under those sections, the department may proceed under s. 291.95, Stats.

(2) PENALTIES. Any person who violates any provision of ch. 291, Stats., ch. NR 101 or chs. NR 600 to 685, or any special order, plan approval or term or condition of a license or variance issued under those sections, is subject to the penalties provided under s.

291.97, Stats. Each day of a continuing violation is a separate offense.

(3) LICENSE DENIALS, SUSPENSIONS AND REVOCATIONS. License denials, suspensions and revocations are governed by s. 291.87, Stats.

History: Cr. Register, February, 1991, No. 422, eff. 3-1-91; corrections made under s. 13.93 (2m) (b) 7., Stats., Register, May, 1998, No. 509.