

5.09 WASTEWATER PROGRAM

The University of New Mexico, like any other large and complex academic and research institution, generates a wide variety of aqueous wastes and effluents as a result of broad categories of teaching and research activities. This program contains requirements for practices designed for protection of the Publicly Owned Treatment Works (POTW) from the hazards of wastewater that is generated as a result of University-related activities.

A. SCOPE AND STATEMENT OF PURPOSE

This program and the guidelines included herein are to be followed by all university contractors, contractual services employees, volunteers, students, faculty and staff that discharge wastewater and any type of effluents into a sanitary sewer system as a result of University-related activities. The purpose of this program is to set uniform wastewater discharge requirements to enable the appropriate municipality to comply with the provisions of the Clean Water Act and other applicable federal and state laws and regulations, to protect the environmental initiatives of that municipality's wastewater treatment division, to provide for the public health and welfare by regulating the quality and quantity of wastewater discharged into the system and treatment works, and to otherwise ensure protection of public health and the environment through proper discharge and disposal of wastewater, wastes, sewage, and septage and other holding tank waste. This program also establishes effluent limitations and other discharge criteria and provides that certain users shall pretreat or minimize waste to prevent the introduction of pollutants into the POTW which will interfere with the operation of the POTW or contaminate the sewage sludge, to prevent the introduction of pollutants into the POTW which will pass through the treatment works into the receiving waters of the Rio Grande River or otherwise be incompatible with the treatment works, and to improve opportunities to recycle and reclaim wastewaters and the sludge's resulting from wastewater treatment. **Note: Prevention of inappropriate discharges of effluents and wastes into the sewer system is the best safety and health strategy.**

B. DEFINITIONS

Cooling Water - The water discharged from any use such as power generation, air conditioning, cooling or refrigeration or other uses which add no significant pollutants, or do not cause the temperature of the discharge to be greater than 140°F.

Dilution - The additional use of water for the purpose of reducing the concentration of pollutants in the wastewater before discharging to the POTW. **NOTE: Dilution of this type is illegal.** The normal use of potable water for sanitary facilities and food preparation is not considered dilution.

Discharge Monitoring Report - A report submitted by UNM to the municipality's Industrial Waste Engineer containing information relating to the nature and concentration of pollutants and flow characteristics of the discharge from UNM to the POTW using standard methods approved by that Industrial Waste Engineer.

Domestic Wastewater - Effluent which contains constituents and characteristics similar to effluent from a residence and which does not contain COD, BOD or TSS in excess of the following concentrations:

COD = 500 mg/l

BOD = 250 mg/l

TSS = 330 mg/l

Drainage Conveyance - A natural or man-made system for transport of unpolluted storm water or other runoff waters.

Garbage - Solid wastes from the preparation, cooling and dispensing of food and from the handling, storing and sale of produce.

Grab Sample - A sample which is taken from a waste stream representing conditions at that moment with no regard to the flow in the waste stream and without considerations of time.

Illegal Discharges - These discharges include, but are not limited to, unauthorized connection to the POTW sanitary sewer connections to any storm sewer system, holding tank waste other than directly to the POTW or other approved sites, any surfacing sewage from a broken or blocked sewer connection *and any discharge in violation of this program.*

Indirect Discharge - The discharge or the introduction of pollutants from any non-domestic source into a POTW.

Industrial Waste Engineer - The person employed by a municipality that supervises the operation of the approved pretreatment program and who is charged with certain duties and responsibilities as stated in the program. The Industrial Waste Engineer also means any other individual designated by the POTW to enforce the appropriate provisions of the Clean Water Act.

Interference - A discharge, which alone or in conjunction with a discharge or which discharges from other sources, inhibits or disrupts the POTW, its treatment processes or operations or its sludge processes, use or disposal; and is therefore a cause of a violation of the municipality's NPDES permit or of the prevention of sewage sludge use or disposal.

Lateral Sewer - Any UNM sewer pipe beginning at the public sewer and extending to the premises actually served. The lateral sewer includes the stub to which UNM connects. The term is interchangeable with house service connection or building sewer.

Medical Waste - Infectious wastes, infectious agents, human blood and blood products, pathological wastes, sharps, body parts, contaminated bedding, surgical wastes, potentially contaminated laboratory wastes, dialysis wastes and any other biohazardous waste materials.

Non-Domestic Wastewater - All waterborne solids, liquid or gaseous wastes resulting from any commercial, industrial or institutional activity and distinct from domestic wastewater.

Oils-Mineral/Petroleum - Petroleum, oil, non-biodegradable cutting oil or products of mineral oil origin, measured by a total petroleum hydrocarbon (TPH) test (EPA method 418.1 or equivalent method).

Oils and Grease-Animal/Vegetable - Biodegradable oils, fats and greases such as lard, tallow or vegetable oil, measured by EPA method 4.13 or equivalent method.

Pass Through - A discharge which exits the POTW into waters of the United States (Rio Grande, etc.) in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause or a violation of any requirement of the municipality's NPDES permit, including an increase in the magnitude or duration of a violation.

pH - A measure of the acidity or alkalinity of a solution, expressed in standard units. The range used is >0 (acidic) to 14 (basic), with the standard unit of 7 being neutral (neither acidic or basic).

Pollutant - Dredged spoil, solid waste incinerator residue, filter backwash, sewage, garbage, wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, municipal, agricultural and industrial wastes and certain characteristics of wastewater (e.g., pH, temperature, TSS, turbidity, color, BOD, COD, NH₃N, toxicity or odor).

Pollution - The man-made or man-induced alteration of the chemical, physical, biological and radiological integrity of water.

Pretreatment - The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater to a less harmful state prior to or in lieu of discharging or otherwise introducing such pollutants into a POTW. The reduction or alteration of which can be obtained by physical, chemical or biological processes, process changes or by other means.

Pretreatment Requirements - Any substantive or procedural requirement related to pretreatment.

Pretreatment Standards or Standards - Prohibited discharge standards, categorical pretreatment standards and local limits.

Public Sewer - A sanitary sewer that is controlled and/or owned by a municipality. This is restricted to the main sewer line, whereas UNM is responsible for the lateral sewer line and its connection to the public sewer.

Publicly Owned Treatment Works (POTW) - The wastewater treatment plant owned by a municipality and any devices or systems used in the collection, storage, treatment, recycling and reclamation of sewage or industrial wastes of a liquid nature and any conveyances which convey water to the wastewater treatment plant.

Slug Load or Slug - Any discharge at a flow rate or concentration which could cause a violation of the prohibited discharge standards.

Storm Sewer - A sewer which carries storm and surface waters and drainage, but excludes wastewater and industrial wastes.

Storm Water - Any flow occurring during or following any form of natural precipitation and resulting therefrom.

Total Metals - The sum of the concentrations of Copper (Cu), Nickel (Ni), Total Chromium (Cr) and Zinc (Zn).

Total Suspended Solids - The total suspended matter that floats on the surface of, or is suspended in, water, wastewater or other liquids, and which is removable by filtration in accordance with standard laboratory procedures.

Total Toxic Organics - The summation of all values greater than 0.01 milligrams per liter (mg/l) for the list of toxic organics in 40 CFR 122, Appendix D, Table II or as directed by the Industrial Waste Engineer. [www.epa](http://www.epa.gov) website.

Toxic Pollutant - Any pollutant or combination of pollutants listed as toxic in regulations promulgated by the EPA and any pollutant which is not compatible with the POTW in the opinion of the Industrial Waste Engineer.

Trap - A device for retaining sand, silt, grit, mineral material, petroleum solvent, grease or oil by gravity differential separation from wastewater and of a design and capacity approved by the POTW.

Treatment Works - Any devices and systems used by the municipality in the storage, treatment, recycling and reclamation of domestic and non-domestic wastewater, including interceptor sewers, outfall sewers, sewage collection systems, pumping, power and other equipment and appurtenances; extensions, improvements, remodeling, additions and alterations thereof and any works, including land that will be an integral part of the treatment process or is used for ultimate disposal of residues resulting from such treatment.

Unpolluted Water - Water to which no constituent has been added, either intentionally or accidentally, which would render such water unacceptable to the State of New Mexico or the Environmental Protection Agency (EPA) having jurisdiction thereof for disposal to storm or natural drainage, or directly to surface waters.

Waste - Sewage and any and all other waste substances, liquid, solid, gaseous or radioactive, associated with human habitation or of human or animal origin, or from any producing, manufacturing or processing operation of whatever nature, including such waste placed within containers of whatever nature prior to, and for purposes of, disposal.

Wastewater - Waste and water, whether treated or untreated, discharged into or permitted to enter a public sewer.

Wastewater Constituents and Characteristics - The individual chemical, physical, bacteriological and radiological parameters, including volume and flow rate and such other parameters that serve to define, classify or measure the contents, quality, quantity and strength of wastewater.

Wastewater Discharge Permit - The permit authorizing the discharge of pollutants into the public sewer, provided that they fulfill all of the reporting requirements of the permit and discharge pollutants at concentrations no greater than are listed in the permit.

C. ABBREVIATIONS

These frequently used abbreviations represent the following:

BOD - Biochemical Oxygen Demand

°C - Degrees Centigrade

CFR - Code of Federal Regulations

CFS - Cubic Feet per Second

COD - Chemical Oxygen Demand

EPA - Environmental Protection Agency

°F - Degrees Fahrenheit

MGD - Million Gallons per Day

mg/l - Milligrams per liter

NPDES - National Pollutant Discharge Elimination System

POTW - Publicly Owned Treatment Works

TSS - Total Suspended Solids

USC - United States Code

D. WASTEWATER DISCHARGE LIMITATIONS

No person shall discharge septage, wastewater, liquid waste, holding tank waste, domestic wastewater or any other waste governed by this program into or onto any place or area other than those properly functioning enclosed systems, liquid waste treatment systems or POTWs as allowed by law, including government regulation. As such, discharge of these wastes to the ground surface or drainage conveyances not designed for wastewater either directly or indirectly shall constitute a violation of this program whenever such discharge occurs within the municipality, regardless of the origin of the waste discharged. Such discharge not specifically allowed by law shall be a basis for revocation, suspension or modification of any wastewater discharge permit issued under the provisions of this program, regardless of the location of the disposal site.

Users are encouraged to reduce, eliminate or otherwise prevent polluting substances from entering their waste stream by source reduction or waste minimization. The specific limitations set forth herein are necessary to enable the municipality to meet requirements contained in its NPDES permit, to protect the public health and the environment, and to provide efficient wastewater treatment, and to protect the health and safety of wastewater personnel.

E. PROHIBITED POLLUTANTS

No user shall introduce into the POTW any of the following pollutants which acting alone or in conjunction with other substances present in the wastewater could interfere with the operation of the POTW:

1. Pollutants which could create a fire or explosion hazard in the POTW, including but not limited to, waste streams with a closed cup flashpoint of less than 140°F (60°C) using the test methods specified in 40 CFR 261.21.
2. Pollutants which could cause corrosive structural damage to the POTW, but in no case discharges with a pH lower than 5.0 or higher than 11.5.
3. Solid or viscous pollutants in amounts which could cause obstruction to the flow in the sewers or other interference with the operation of or which could cause damage to the POTW, including grease, wax or other materials which tend to coat and clog a sewer line or the associated devices.
4. Any pollutant which could cause interference in the POTW or individual unit operations, including oxygen demanding pollutants (BOD, COD) released in a discharge at a flow rate and/or pollutant concentration which could cause interference in the POTW or individual unit operations.
5. Heat in amounts which will inhibit biological activity in the POTW resulting in interference. No user shall discharge into any public sewer or other appurtenance of the POTW wastewater with a temperature exceeding 60°C (140°F).
6. Petroleum oil, non-biodegradable cutting oil or products of mineral oil origin in amounts that will cause interference or pass through, and in no case greater than 100 mg/l.
7. Pollutants which result in the presence of toxic gases, vapors or fumes within the POTW in a quantity that may cause acute worker health and safety problems as determined by the Industrial Waste Engineer.
8. Trucked or hauled pollutants, except at discharge points designated by the Industrial Waste Engineer.
9. Noxious or malodorous liquids, gases, solids or other wastewater which, either singly or by interaction with other wastes, are sufficient to create a public nuisance or a hazard to life, or to prevent entry into the sewers for maintenance repair or pollution of receiving waters.
10. Wastewater which imparts color and which cannot be removed by the treatment process. This includes, but is not limited to, dye wastes and vegetable tanning solutions, which subsequently imparts color to the treatment plant effluent thereby violating the municipality's NPDES permit.
11. Storm water, surface water, ground water, artesian well water, roof runoff, subsurface drainage, swimming pool drainage, condensate, deionized water, non-contact cooling

water and unpolluted wastewater, unless specifically authorized by the Industrial Waste Engineer.

12. Sludges, screenings or other residues from the pretreatment of industrial wastes.
13. Wastewater causing, alone or in conjunction with other sources, the treatment plant's effluent to fail a toxicity test.
14. Detergents, surface-active agents or other substances which may cause excessive foaming in the POTW.
15. Fats, oils or greases of animal or vegetable origin in concentrations greater than 300 mg/l.
16. Wastewater causing two readings on an explosion hazard meter at the point of discharge into the POTW, or any point in the POTW, of more than 5% or any single reading over 10% of the lower explosive limit of the meter.
17. Any pollutant which would result in a violation of any statute, rule, regulation or ordinance of any public agency, including discharges prohibited by the EPA.
18. Medical wastes, except as specifically authorized by the Industrial Waste Engineer in a wastewater discharge permit.

F. WASTEWATER CONSTITUENT EVALUATION

UNM's wastewater is evaluated using the following criteria:

1. Whether the wastewater contains any element or compound which is not adequately removed by the treatment works and which is considered to be an environmental hazard by the Industrial Waste Engineer.
2. Whether the wastewater causes a discoloration, foam, floating oil or grease, or any other condition in the quality of the city's treatment works' effluent such that receiving water quality requirements established by law cannot be met.
3. Whether the wastewater causes conditions at or near the POTW which violate any statute, rule or regulation of any public agency of the state or the United States.
4. Whether the wastewater contains any element or compound known to act as a lacrimator, known to cause nausea or known to cause severe odors, constituting a public nuisance.
5. Whether the wastewater causes interference with the effluent or any other product of the treatment process such as residues, sludges or scums rendering them to be unsuitable for reclamation or reuse.
6. Whether the wastewater has constituents and concentrations in excess of those listed herein.

7. Whether the wastewater has a higher than normal COD (500 mg/l), BOD (250 mg/l), TSS (330 mg/l) or NH₃N (25 mg/l).

The Industrial Waste Engineer will establish reasonable limitations or prohibitions in the University's wastewater discharge permit that discharges wastewater violating any of the above criteria.

G. PROHIBITIONS OF DRAINAGE OR GROUNDWATER

Storm water, ground water, rain water, street drainage, rooftop drainage, basement drainage, subsurface drainage or yard drainage shall not be discharged to a public sewer unless a storm sewer or other reasonable alternative for removal of the drainage does not exist, and then only when the discharge is approved by the Industrial Waste Engineer.

Clean-up waters from ground water remediation sites or from non-standard industrial permitted sources will normally not be accepted into the city's sewer system. Exceptions will be considered on a case-by-case basis where a reasonable alternative for discharge does not exist, and then only when the discharge is approved by the Industrial Waste Engineer.

Any entity requesting a discharge of remediation water or any other non-standard industrial permitted discharge shall prepare a detailed proposal describing the proposed discharge's characteristics, including but not limited to: toxicity; biotreatability; POTW biological inhibition potential; and any other factors deemed appropriate by the Industrial Waste Engineer.

The industrial Waste Engineer reserves the right to impose monitoring and analysis requirements on the entity making the discharge request which can include testing the discharge waters and the POTW influent, effluent and sludge. The Industrial Waste Engineer reserves the right to deny any discharge request or to deny the continuation of a discharge previously approved, if in the judgment of the Industrial Waste Engineer, the continuance of the discharge is not desirable.

H. DILUTION AND UNPOLLUTED WATER

No user shall ever increase the use of process water or in any way attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with a discharge limitation unless expressly authorized by an applicable pretreatment standard or requirement.

Unpolluted water, including but not limited to cooling water, shall not be discharged to a public sewer.

I. PERSISTENT CHEMICALS

Any persistent pesticides or herbicides, such as Dieldrin, Aldrin, Chlordane, Endrin, Heptachlor, Toxaphene, Lindane, Dioxin, Benzene Hexachloride (BHC) and polychlorinated biphenyls (PCBs) or other toxic refractory organic chemicals shall not be discharged to a public sewer.

J. LIMITATIONS ON RADIOACTIVE WASTE

No user shall discharge or permit to be discharged any radioactive waste into the public sewer.

Hospitals and specialized clinics for radiation treatment may discharge low level radioactive waste when all of the following conditions are met:

1. The person is authorized to use radioactive materials by the Radiation Protection Bureau of the New Mexico Environment Department.
2. The waste is discharged in strict conformity with applicable laws and regulations of the aforementioned agencies, or any other agency having jurisdiction, and a copy of permits received from said regulatory agencies has been filed with the Industrial Waste Engineer.
3. A copy of permits received from said regulatory agencies has been filed with the Industrial Waste Engineer.

K. LIMITATIONS ON THE USE OF GARBAGE GRINDERS

Waste from commercial garbage grinders may be discharged into a public sewer where generated in the preparation of food. Grinders must shred the waste sufficiently so that all particles will be carried freely under normal flow conditions prevailing in the public sewers. Garbage grinders shall not be used for the grinding of plastic, paper products, inert materials or garden refuse.

L. LIMITATIONS ON POINT OF DISCHARGE

No user shall discharge any substance directly into a manhole or other opening in a public sewer other than through an approved lateral sewer, control manhole or control sanitary cleanout unless they have been issued a permit by the Industrial Waste Engineer. The location and design of the control manhole or control sanitary cleanout must be approved by the Industrial Waste Engineer. The Industrial Waste Engineer must incorporate in a permit such conditions as he/she deems reasonably necessary to ensure compliance with the provisions of this article and the user shall be required to pay all applicable charges and fees.

M. SEPTIC TANK OR CHEMICAL TOILET DISCHARGES

No user owning vacuum- or cesspool-type pumping trucks or other liquid waste transport trucks shall discharge such waste into the POTW, unless such person shall first have applied for and received a septic tank discharge or chemical toilet discharge or chemical toilet discharge permit from the Public Works Department, pursuant to the regulations establishing administrative policies and fees for the discharge of septic tank and chemical toilet wastes.

N. OTHER HOLDING TANK WASTE

No user shall discharge any other holding tank or trap waste, including grit, grease or hauled industrial wastes into the POTW without prior approval from the Industrial Waste Engineer. Such wastes from mobile homes and campers are exempt from this provision.

O. LIMITATIONS ON POLLUTANT CONCENTRATION

Based on the development of technically-based local discharge limitations and latest revisions, **no user shall discharge toxic organics into the public sewer in excess of the summation of all values greater than 0.01 milligrams per liter (mg/l) for the list of toxic organics listed in 40 CFR 122 Appendix D, Table II or as directed by the Industrial Waste Engineer at <http://www.abcwua.org/content/view/87/75/>.** Before discharging any chemical waste to the sewer, check these EPA and POTW lists to see if it is allowable. If the pollutant is on the list, but its concentration is at or below the Maximum Allowable Concentration, the waste can be discharged to the sewer. **If the concentration is above the listed concentration, the waste cannot be discharged to the sewer.**

Also, be aware of the limitations for pH and temperature. Be particularly cautious when neutralizing and disposing of acids and bases. Make sure that they contain no other regulated pollutants. Allow them to cool prior to discharging them down the drain. **Dilution of a waste to bring it below a Maximum Allowable Concentration is expressly forbidden.** These wastes should be collected and disposed of as hazardous waste by SRS.

P. SOURCE REDUCTION AND WASTE MINIMIZATION

In lieu of wastewater treatment, users are encouraged to reduce, eliminate or otherwise prevent polluting substances from entering their waste stream by source reduction or waste minimization.

Q. DISCHARGE/SLUG CONTROL PLANS

The University of New Mexico must provide such facilities and institute such procedures as are reasonably necessary to prevent or minimize the potential for accidental discharge into the POTW of waste regulated by this program from liquid or raw material storage areas, from truck or loading and unloading areas, from transfer or processing and materials handling areas, and from diked areas or holding ponds. Plans, specifications and operating procedures for such special permit conditions must be developed by SRS and submitted to the Industrial Waste Engineer for review. The Industrial Waste Engineer may require UNM to submit a Solvent Management Plan because the Albuquerque campus has a significant potential to discharge toxic organics.

At least once every two (2) years, the Industrial Waste Engineer evaluates whether UNM needs an accidental discharge/slug control plan. The Industrial Waste Engineer may require UNM to

develop, submit for approval and implement such a plan. An accidental discharge/slug control plan must address, at a minimum, the following:

- Description of discharge practices, including non-routine batch discharges.
- Description of stored chemicals.
- Procedures for immediately notifying the Industrial Waste Engineer of any accidental or slug discharge.
- Procedures to prevent adverse impact from any accidental or slug discharge. Such procedures include, but are not limited to, inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site runoff, worker training, building of containment structures or equipment, measures for containing toxic organic pollutants, including solvents and/or measures and equipment for emergency response.

R. OIL AND GREASE DISCHARGE

The Industrial Waste Engineer monitors wastewater discharge permit holders, automotive shops, vehicle fueling stations, septic tank pumpers, commercial food processors, oil tank firms and transporters, and other locations and equipment as appropriate. Existing sources must maintain their traps and separation-treatment systems to ensure that grease and oil do not enter the public sewer. Dischargers shall also be subject to monitoring, inspection, reporting and other requirements as determined by the Industrial Waste Engineer at his/her discretion. These dischargers may not be required by the Industrial Waste Engineer to apply for Wastewater Discharge Permits unless he/she determines at his/her discretion that they are a significant source of prohibited pollutants, pollutants in toxic amounts, extra strength discharges or are otherwise controlled by federal regulations. Dischargers not in compliance shall also be subject to appropriate treatment works operation and maintenance costs necessitated by the pollutant problem until that problem is corrected.

S. INFECTIOUS WASTES

Hospitals, clinics, offices of medical doctors and medical laboratories shall dispose of laboratory pathological wastes, contaminated surgical operating room wastes or contaminated delivery room wastes in accordance with published guidelines by the EPA, the Center for Disease Control (CDC) or other appropriate agencies. Any wastes from the above sources which contain toxic biological contamination which are not addressed by the above guidelines shall not be discharged to the public sewer. It is acceptable to discharge semi-solid and liquid infectious wastes in the city of Albuquerque.

T. NOTIFICATION OF THE DISCHARGE OF HAZARDOUS WASTE

Hazardous waste is forbidden to be discharged to the sanitary sewer unless the discharge is incidental to a particular process and the pollutant levels are within the limits specified in this program.

U. ACCIDENTAL/SLUG DISCHARGE NOTIFICATION REQUIREMENTS

In case of any discharge, including but not limited to, accidental discharges, discharges of a non-routine, episodic nature, a non-customary batch discharge or a slug load that may cause potential problems for the POTW, the user shall immediately telephone and notify the appropriate municipality's Wastewater Utility Personnel during business hours or the Wastewater Treatment Plant Shift Supervisor after hours. This notification shall include the location of the discharge, type of waste, concentration and volume, if known, and corrective actions taken by the user. Notification must also be given, within 24 hours, to SRS.

V. WRITTEN REPORT

Within five (5) days following such an occurrence, SRS will provide the Industrial Waste Engineer with a detailed written report describing the cause of the dangerous discharge and measures to be taken by the user to prevent future occurrences. Such notification will not relieve the University of any expense, loss, damage or other liability which may be incurred as a result of damage to the POTW, or any other damage to person or property; nor will such notification relieve the University of any fines, civil penalties or other liability which may be imposed.

W. NOTICE TO EMPLOYEES

A notice must be permanently posted on the potential discharger's bulletin board or other prominent place advising employees whom to call in the event of a discharge. Supervisors must ensure that all employees who may cause or suffer such a dangerous discharge to occur are advised of the emergency notification procedure.