



WASTEWATER SLUG CONTROL PROGRAM

**NEW MEXICO STATE
UNIVERSITY**

Las Cruces, New Mexico

**ENVIRONMENTAL,
HEALTH & SAFETY**

Rev.: November 15, 2015



NMSU WASTEWATER SLUG CONTROL PROGRAM

Pursuant to CFR 403.8(f)(2)(v) the City of Las Cruces (the City) has required New Mexico State University (NMSU or the University), to develop this Wastewater Slug Control Plan. This plan for wastewater slug control and emergency notification are maintained by Environmental Health & Safety (EH&S) and a copy kept at campus facilities where toxic or hazardous material are used.

Wastewater slug discharges are defined as any discharge to the sewer system of a non-routine, episodic nature, including but not limited to an accidental spill or non-customary batch discharge. The results of such activities shall be available to the City wastewater authority upon request. As required by the above regulations, this wastewater slug control plan contains information on the discharge practices, chemical storage requirements, notification procedures and other procedures designed to prevent or minimize the adverse impact from accidental spills:

(A) DESCRIPTION OF DISCHARGE PRACTICES, INCLUDING BATCH DISCHARGES

1. General Wastewater System

The NMSU wastewater system collects wastewater from sinks, toilets, floor drains and direct discharge lines from a variety of NMSU facilities (see map) including:

- Academic and research facilities,
- Farm buildings,
- Residential halls, apartments and housing units,
- Special Events venues and athletic facilities,
- Maintenance and utility systems,
- Warehouse units

Generally the wastewater in the campus sewer system flows in a westerly direction to collector lines located along Knox Street. A point of compliance manway is located on the main collector line near the intersection of Knox Street and College Avenue. The manway is used to sample effluent prior to discharging it into the City wastewater lines located at the intersection of Knox Street and University Drive. The Chemistry Building has a separate discharge line which is connected to the City wastewater system line running beneath University Avenue. Several small NMSU buildings located west of Union Avenue discharge directly into on-site septic tanks.

2. Overview of Plan Management and Employee Training

EH&S manages the NMSU wastewater discharge permit and is responsible for ensuring that industrial and other regulated wastes generated from campus utility system operations are disposed of properly. EH&S is also responsible for ensuring that the disposal of all hazardous waste and other regulated waste generated in NMSU laboratories, shop and campus farm areas is done in compliance with applicable local, federal and state regulations.

Disposal of hazardous chemicals, infectious materials and hazardous/industrial wastes is performed by or arranged under the authority and control of EH&S. NMSU policy prohibits the discharge or disposal of most hazardous chemicals, infectious materials, and hazardous waste to the

sanitary sewers without EH&S review and approval. Disposal of waste generated from various campus construction projects and sites is also generally prohibited without explicit review and approval. EH&S will review requests to allow incidental wastewater to be discharged into sinks/drains upon request on a case-by-case basis. The review includes evaluation whether the discharge would exceed applicable limits in the NMSU Wastewater Discharge Permit.

NMSU staff, faculty, and student employees are trained on the NMSU waste disposal policies and procedures when initially hired and retrained periodically as needed. This plan and related employee training incorporate the key components of the EPA's *Best Management Practices* for preventing inadvertent releases of toxic and hazardous materials to sanitary sewer systems. Employee training records are maintained in a centralized training records management system.

3. Facility Type - Academic and Research Facilities/Buildings

Chemical Laboratories and Shops - NMSU has over 30 buildings that have one or more chemical laboratories used for academic and research purposes. These areas can contain a large variety of hazardous chemicals, and the quantities of materials used and stored is typically relatively small. Laboratory workers are required to attend mandatory safety training that includes, among other topics, safe handling of hazardous chemicals, emergency response procedures, spill response procedures and the approved procedures for disposing of hazardous waste generated by lab activities. Potential discharge points in laboratories are generally limited to floor drains and bench top sinks. Any accidental releases are expected to be relatively minor due to the limited quantity of hazardous materials used in these areas. Hazardous waste accumulation points are established in each lab that generates waste and the wastes are stored until picked up by EH&S for proper disposal.

Custodial Closets – Most buildings at NMSU contain at least one custodial closet with a floor drain used to discharge wash and mop water. The quantity of cleaning products stored in the closets is limited to less than approximately two gallons of any chemical. Bulk containers (typically 15 to 30 gallon drums) of custodial cleaning products, solvents, floor stripper chemicals, etc. are stored in the custodial bulk chemical storage area located in the NMSU Facilities and Services (FS) area. Unwanted custodial chemicals and chemical wastes are turned over to EH&S for proper disposal. Blood clean-up materials and other biohazardous wastes are collected in specially marked containers and routinely turned over to EH&S for disposal as medical waste.

4. Facility Type – Neal Hall Slaughter House

An animal slaughter facility is located in Neal Hall on Espina Street. When slaughter activities take place the animal blood drains to a sump. As needed, the contents of the sump are pumped out and collected in appropriate waste containers for disposal. Incidental facility wash water drains directly to the sanitary sewer system via floor drains and facility sinks.

5. Facility Type - Central Utility Plant Cooling/Heating System Wastes

Cooling towers at the campus Central Utility Plant, located on Sweet Street, have continuous blow down controls which automatically discharge treated cooling water into the sanitary sewer. The treated water is periodically monitored and analyzed to ensure that the discharge is within applicable wastewater discharge limits. When the chilled water system cool pool is drained the water is discharged to a storm-water containment pond. The storage location for

drums of various water additives is equipped with a secondary containment system to prevent the accidental discharge of material into the sanitary sewer system in case of a leak. Various chemical supplies are occasionally stored at the facility loading docks but there is no access point to the sanitary sewer system.

6. Facility Type – Corbett Center Cafeteria/Kitchens Grease Disposal

Greases from the kitchens in the cafeteria and snack areas in Corbett Center are discharged to a grease sump tank at the south side of the building. This sump is pumped out on a monthly basis under contract to a vendor for disposal.

7. Facility Type – Natatorium Pool Maintenance

The natatorium uses and stores chlorine tablets and hydrochloric acid for the pool maintenance. The chemical storage area is segregated from the nearest connections to the sanitary sewer system (floor drains) by a three foot high containment wall.

8. Facility Type – Vehicle Maintenance Shops

Physical Plant Shops – NMSU Facilities and Services (FS) has both a regular vehicle maintenance shop and a heavy shop that performs maintenance on heavy equipment. Waste oil and antifreeze generated by the shops is bulked into 55 gallon drums prior to disposal. The drums have secondary containment to contain any accidental spills or leaks. The waste antifreeze is disposed by EH&S and the waste oil is picked up by an oil recycling company. Both shops have wash bays which discharge into settling sumps. The sumps are pumped out as needed (typically semi-annually) and the sump waste is picked up and disposed by a waste disposal vendor.

Anderson Hall and Housing Warehouse – The Physical Science Lab (Anderson Hall) and the Housing Department have small maintenance bays and routinely perform minor vehicle maintenance which generate mainly oil and antifreeze wastes. The waste oil and antifreeze generated by the shops is bulked into 55 gallon drums prior to disposal. At Anderson Hall, the waste drums have secondary containment to contain any accidental spills or leaks. The waste antifreeze is disposed through a waste contractor while the waste oil is picked up by an oil recycling company.

Farm Shop – the College of Agriculture has a small maintenance shop located on Stewart Street which services farm equipment. The waste antifreeze is disposed through a waste contractor while the waste oil is picked up by an oil recycling company.

DACC Vehicle & Trades Shop/Class Areas - DACC has several shop/class areas which are used for vehicle repair and HVAC training classes. All waste oil, antifreeze, and other chemicals are collected and accumulated in drums with secondary containment outside the DACC building for recycling or disposal. The shops have wash bays which discharge into settling sumps. The sumps are pumped out as needed (typically annually) and the sump waste is picked up and disposed by a waste disposal. The shop includes a parts washer which holds five gallons of solvent. The waste solvent is picked up and recycled by solvent recycling contractor.

9. Paint Shop and Booth Operation

Facilities and Services - FS operates a paint shop and booth. The paint booth filters and all oil/solvent-based paint wastes are collected for disposal as hazardous waste. The equipment and

brushes from water-based paint are typically washed to a sump located on the east side of the shop. Incidental washout water may be discharged to sanitary drains for onsite painting at campus buildings.

10. Grounds (Landscaping) Chemical Storage

Facilities and Services - FS Ground department maintains several storage units containing chemicals for landscape and plant application around the campus. Neither the self-contained storage unit nor the general mixing area has access to sanitary sewers. All unused chemicals and wastes are collected for disposal via EH&S.

11. Warehouse Storage

Facilities and Services – FS keeps individual containers of solvents, flammables and lead/acid batteries as well as provides a loading area for temporary storage of research chemicals in the NMSU warehouse. Most solvents and flammables are kept in approved flammable cabinets. There are no floor drains in the area, hence spilled or leaking materials have no access to the sanitary sewers.

12. Medical Facilities

The Campus Health Center is located on Stewart Avenue at Breland Drive. Any blood or related waste from these units is collected and disposed of as medical waste. Photo waste from an x-ray unit at Student Health is recycled via a outside vender.

13. Facility Type – New Mexico Department of Agriculture (NMDA)

Weights and Standards Bureau – This unit generates a mixed water and petroleum product waste water. Due to the repeatable nature of scale testing at this facility, the wastewater is of a consistent quality. NMSU has established a procedure, approved by the city of Las Cruces Pollution Prevention Program, in which the water is disposed to the NMSU sanitary sewer. Both internal water quality screening and independent laboratory analyses are performed to confirm water quality.

State Chemist, Petroleum Standards, and Seed Labs – These labs have a variety of hazardous chemicals but the quantities of materials used and stored is relatively small. Laboratory workers are required to attend mandatory safety training that includes safe handling of hazardous chemicals, emergency response procedures, spill response procedures and the approved procedures for disposing of hazardous waste generated by lab activities. Potential discharge points in these laboratories are generally limited to floor drains and bench top sinks. Any accidental releases are expected to be relatively minor due to the limited quantity of hazardous materials used in these areas. Hazardous waste accumulation points are established in each lab that generates waste and the wastes are stored until picked up by EH&S for proper disposal.

(B) DESCRIPTION OF STORED CHEMICALS

NMSU has some type of hazardous chemicals storage in over 700 separate locations research

labs, shops, storage rooms, barns, classrooms) with over 30,000 individual chemical entries in the chemical inventory database. Chemical storage in the academic campus buildings is primarily within the teaching and research labs, chemical stock rooms, and custodial closets while the chemicals used by NMSU maintenance and trades are primarily in the warehouse, motor pool, central plant, shops, and other buildings at the Facilities and Services and Housing departments.

The type and quantity of hazardous chemicals found in NMSU facilities changes over time. With the exception of the warehouse, motor pool and central plant, the chemicals are generally stored in containers of five gallons or less. Depending on the quantities of material within an area, the flammable and corrosive chemicals are typically stored in self-contained flammable or corrosive cabinets.

The following is a listing of the location and amount of the hazardous chemical reported under annual EPCRA Tier 2 Report to the New Mexico Environment Department. This report lists extremely hazardous substances and large quantities of any hazardous materials stored on campus.

1. Chlorine:

- Liquid storage, FS Warehouse, max daily amount 7,500 pounds (10% in water).
- Liquid storage, Water Well 16, max daily amount 9,900 pounds (15% in water).
- Solid tablet storage, Natatorium, max daily amount of 1,600 pounds (65% in solid).

2. Ethylene Glycol:

- Liquid aboveground storage at the Satellite Utility Plant (1570 Stewart Street), max daily amount 39,507 pounds.

An inventory of hazardous chemicals present in NMSU facilities is required by the NMSU Hazard Communication program which is maintained by EH&S. An electronic, web-based inventory system managed by EH&S is used to maintain the university-wide chemical inventory. The system is designed to meet the requirements of applicable local, State and Federal regulations and includes information on the types, quantities and locations of hazardous chemicals.

(C) PROCEDURES FOR NOTIFYING THE POTW OF A SLUG DISCHARGE

In the event of a release of hazardous chemicals to the sanitary wastewater system at or to a floor or sink drain, the chemical users are instructed to treat the incident as an emergency and to immediately notify the NMSU Campus Police at 911 or 646-3311. NMSU Police will then notify NMSU Fire and EH&S. Upon response to the location EH&S will notify FS Utilities. The NMSU Radiation Safety Officer (RSO) will be notified and will respond if the release is radioactive.

If a slug discharge is deemed likely to upset the operation of the City wastewater treatment plant, the plant contacts will be notified by phone immediately. EH&S manages the NMSU wastewater discharge permit and is designated as the main contact with the City wastewater treatment plant. EH&S, or other FS authorities, may provide information on the release to the City treatment plant representatives. The notification numbers for the City treatment facility are included below.

Wastewater Treatment Plant Contacts

Daytime (7 am to 5 pm) numbers

Lorenzo Martinez - (575) 528-3599

Paul Diaz - (575) 528-3601

Nighttime hours (5pm to 7 am) numbers

Night Operators (575) 915-6127

City Dispatch (575) 526-0500

Regulatory & Environmental Resources - IPP

Daytime (7 am to 5 pm) numbers

Carl Clark - (575) 528-3548

Jeff Garcia - (575) 528-3639

EH&S keeps a Reportable Quantities Notification Guide in the main EH&S office at Academic Research Center, Unit C. The guide includes forms for documenting chemical spill information, e.g. the location, chemical, quantities, response and other parameters related to a chemical release. As appropriate this information will be collected as documentation. NMSU will notify the City treatment plant in writing of the reported slug discharge within five calendar days of the event.

(D) PROCEDURES TO PREVENT ADVERSE IMPACT FROM ACCIDENTAL SPILLS

The following includes Best Management Practices (procedures, measures, and/or requirements) which have been either recommended or are a requirement in order to prevent accidental chemical spills to the sanitary sewers. Training on these items will be implemented as part of the Lab Standard and HazCom Training. These procedures are included in the attached training document on the Slug Control Plan and Emergency Notification.

1. Measures for containing toxic pollutants (Best Management Practices):

a. Source control and reduction

- i. All chemicals at NMSU are to be reported via the NMSU HazCom inventory database system (details are provided on the NMSU safety website (www.nmsu.edu/safety))
- ii. Prior approval is required for any experiment or procedure involve highly toxic or unusual use of hazardous material. Additional details are provide in the NMSU HazCom Plan and the Chemical Hygiene Plan.
- iii. Minimize storage quantities of chemicals by ordering only what is needed
- iv. Dispose of unwanted chemicals and all hazardous waste through EH&S.
- v. Eliminate (or minimize) the use of mercury and mercury containing devices. All mercury quantities must be reported via the HazCom inventory system. Any and all mercury spill are to be reported to EH&S for cleanup. Details are provided previously by memo and University policy (e.g. Mercury Mandate on NMSU safety website).

b. Use, storage, and housekeeping measures

- i. Avoid open container use of hazardous chemicals near sinks and floor drains.
- ii. When open container use of chemicals near sinks and floor drains is unavoidable, cap or plug sinks and drains during chemical use.
- iii. Store chemicals in tubs, cabinets, bermed or diked areas, or in other secondary containment.
- iv. Use proper containers and restraints.
- v. Secure storage cabinets and shelves to prevent tipping or falling.
- vi. Maintain spill containment and clean-up materials nearby. Some spill equipment and information on spill clean-up is available from EH&S and/or the department.

vii. Follow good housekeeping practices. Never store hazardous chemicals in sinks.

2. Inspection and maintenance of storage areas:

All chemical use and storage areas are to be regularly inspected for proper application of the above BMPs. In chemical storerooms where floor drains go to the sanitary sewer, the floor drains should be plugged, except when they are in use (for example, when floors are mopped). Chemical storerooms should use removable drain plugs in such cases.

3. Material handling and transfer:

Chemicals transferred within buildings or between buildings should be placed in secondary containers that can contain more than 100% of the chemical, in case the primary container breaks. Please contact your Chemical Hygiene Officer or EH&S if you need help on this matter.

4. Worker training

All personnel in operations that could cause a slug discharge are to be trained on the contents of the slug control plan and the spill emergency notification. For laboratory staff, the training will be part of the Lab Standard Training and included in the annual CHP review. For all other hazardous chemical users, training is to be documented and on file at EH&S.

5. Containment structures

As appropriate containment structure are installed for storage of large quantities hazardous materials near floor drains. In certain areas, the floor drains have been covered or plugged.

6. Measures and equipment for emergency response

The NMSU Fire Department is the hazardous materials response team for the University. The Fire Department operates on 24-hour basis and consists of approximately 20 staff and student fire fighters. EH&S provides on-call assistance to the NMSU Fire department for technical assistance and hazardous waste services. The Fire Department keeps a fully equipped emergency response trailer with spill containment devices and spill clean-up equipment. Similarly the FS and EH&S maintain supplies of spill containment and clean up equipment.

In addition each lab and department using large amounts of chemicals are expected to maintain spill containment and clean-up materials. EH&S provides spill response instruction to users and some spill equipment for labs and departments.

