

# NMED

New  
Mexico  
Environment  
Department



## 40 CFR 262 SUBPART K

Compliance & Technical Assistance  
Hazardous Waste Bureau

# Basic Facts About the Labs Rule

- The Academic Labs Rule was published December 1, 2008
- Established **Subpart K** in 40 CFR Part 262 (generator regulations) for laboratories owned by eligible academic entities
  - ▣ Labs typically operate under the satellite accumulation area (SAA) regulations of 40 CFR 262.34(c)
  - ▣ Subpart K provides alternate RCRA generator regulations for managing hazardous waste in academic labs



# How does a facility become eligible?

- Must notify using 8700-12 and be.....
- Academic school or
- Teaching college or
- Non-profits with formal written affiliation agreement
- NOT – elementary or secondary schools



# Rule Benefits

New Provision under Subpart K	Benefits of New Provision
Training of Laboratory Personnel	<ul style="list-style-type: none"> <li>■ Greater awareness in laboratory</li> <li>■ Safer laboratories</li> <li>■ Better compliance</li> </ul>
EH&S or Vendor Makes HW Determinations	<ul style="list-style-type: none"> <li>■ More accurate HW determinations</li> <li>■ Options of where and when to make the HW determination allows entity to tailor rule to its labs</li> </ul>
Time-Driven Removal of Laboratory HW	<ul style="list-style-type: none"> <li>■ Allows for better planning</li> <li>■ Safer Laboratories</li> </ul>
On-site Consolidation of Laboratory HW	<ul style="list-style-type: none"> <li>■ Fewer partially full containers reduces costs</li> <li>■ Vendors spending less time on-site reduces costs</li> </ul>
Laboratory Clean-out Incentives	<ul style="list-style-type: none"> <li>■ Reduced stockpile of legacy chemicals</li> <li>■ Safer laboratories</li> <li>■ Fewer episodic generators</li> <li>■ Reduced costs to eligible academic entity</li> </ul>
Laboratory Management Plan (LMP)	<ul style="list-style-type: none"> <li>■ Opportunity to move beyond compliance to implement best management practices</li> </ul>



# Subpart K Rule Provisions

- 262.200 – Definitions
- 262.201 – Applicability
- 262.202 – This Rule is Optional
- 262.203 – Notification of Participation
- 262.204 – Notification of Withdrawal
- 262.205 – Summary of Rule
- 262.206 – In-Lab Container Management and Labeling
- 262.207 – Training
- 262.208 – Removing Containers from a Laboratory
- 262.209-12 – Hazardous Waste Determinations
- 262.213 – Laboratory Clean Outs
- 262.214 – Laboratory Management Plan
- 262.215 – Unwanted Material, not solid or HW
- 262.216 – Non Laboratory Waste Management



# 262.200 – Definitions

- College/University – Post secondary, public or private, degree granting, ACCREDITED by an accrediting agency listed by the US Dept. of Education
- Eligible academic entity – non profit research institute or a teaching hospital owned by or with a formal affiliation agreement with a college or university
- Formal Written Affiliation Agreement signed by all parties; not on a grant or project by project basis.



# Definitions (cont.)

- Laboratory – area where relatively small quantities of chemicals are used for teaching or research
  - Nonproduction basis
  - Stored and used in containers easily manipulated by one person
  - Includes – photo labs, art studios, field labs, chemical stockrooms and prep rooms providing support to teaching or research, and diagnostic labs at teaching hospitals



# Definitions (cont.)

- Laboratory Worker – person who handles chemicals or unwanted material in a laboratory. May include:
  - Faculty – professors, principal investigators
  - Staff – technicians, supervisors, managers
  - Students – post doctoral fellows
  - Interns – do not have to be paid
  - NOT undergraduate or graduate students in a supervised classroom setting
  - Does include teaching and research assistants!





# Definitions (cont.)

- Unwanted Material – any chemicals, mixtures or other material from a lab that is destined for a hazardous waste determination by a trained professional
- Working Container – 2 gallons or less, used to collect unwanted material at a lab work station
- Laboratory Clean Out – special removal, not part of the routine removals required under the lab management plan
- Central Accumulation Area – on site HW accumulation area subject to SQG or LQG rules



# 262.201 & 202 - Applicability

- Alternate requirements to normal hazardous waste accumulation requirements under 262.34 for large and small quantity generators
- CESQGs may also participate
- The alternate requirements are optional. Generators may still choose to comply with normal hazardous waste generator requirements.



# 262.203 & 204 Notification

- Must not wait for an inspection to claim the use of the alternate management rule
- Notification is required before implementing a Subpart K program and also again if a facility withdraws from a Subpart K program



# 262.205

- Academic entities do not have to have RCRA permits or interim status provided the labs comply with the provisions of 40 CFR 262 Subpart K and the entity has a Laboratory Management Plan in accordance with 40 CFR 262.214
- The plan shall describe how the labs owned by the entity will comply with the rule



# 262.206 – In-Lab Management

## (a) Container Labeling

- ❑ “Unwanted Material” or other similar term used consistently by the entity and identified in the Laboratory Management Plan
- ❑ Information to alert emergency responders to contents
- ❑ Can include chemical name, type of chemical
- ❑ Date the material began accumulating
- ❑ Information to allow a trained professional to make a HW determination
  - Used or unused? Chemical composition/reactions?
  - A description of the manner in which the chemical was processed
  - i.e. spent solvents, electroplating processes



# 262.206 (cont.)

## (b) Container Management

- Good condition, overpacked if needed
- Compatible with contents,
- Closed except
  - When adding, removing or bulking
  - Working containers may be open until the end of the procedure or work shift, or until it is full
  - When venting a container is necessary for proper operation of the lab equipment (such as HPLC waste collection containers) or in order to prevent pressure buildup



# Differences from Subpart C

- As stringent than normal satellite requirements, except for the provision allowing open containers
  - ▣ Less stringent than 90 day accumulation area rules
  - ▣ “Unwanted material” is covered under the rule until a HW determination has been performed
- Designed to get complete chemical constituent and process information to the trained professional that will perform the hazardous waste determination and arrange for disposal
  - ▣ Identification of listed hazardous wastes
  - ▣ Identification of underlying hazardous constituents



# 262.207 - Training

- Required for all lab workers and students
  - ▣ Except for undergraduates and graduates in classrooms
  - ▣ Instructor is responsible for behavior of class
- Commensurate with duties
- Variety of methods allowed
  - ▣ Instruction by the professor or lab manager
  - ▣ Classroom training
  - ▣ On the job
  - ▣ Electronic or written
- Large Quantity Generators must maintain all training documentation for current workers
- Three years for former workers and students





# Trained Professionals

- Must accompany the transfer of unwanted material and hazardous waste when the material is removed from the laboratory
- Must make hazardous waste determinations for unwanted material in accordance with 40 CFR 262.11
  - Determine if the material is a listed hazardous waste
  - Then whether or not it is characteristically hazardous
  - Identify all applicable federal and state EPA waste numbers
  - Identify the underlying hazardous constituents present in characteristically hazardous wastes
- 202.200 definition – may be a contractor or vendor that meets the requisite training requirements



# 262.208 – Time Limits

- (a)(1) Unwanted material must be removed from the labs on a regular basis, not to exceed once per 12 months OR
- (a)(2) within 12 months of the accumulation start date
- The entity must choose either option one or two, and the facility's laboratory management plan must specify the frequency
- The plan must also outline how the entity will comply with the removal plan
- Removal required if limits are exceeded



# 262.208 – Quantity Limits

- Each laboratory is limited to:
  - ▣ 55 gallons of all unwanted material
  - ▣ 1 quart of reactive, acutely hazardous unwanted material, listed in 40 CFR 261.33(e) - followed by (R):

Examples:

- Aluminum phosphide (P006)
- Ammonium picrate (P009)
- Mercury fulminate (P065)
- Nitroglycerine (P081)
- ▣ Reactive acutely hazardous unwanted material is defined in 40 CFR 262.200
- ▣ Does not include many items otherwise considered to be reactive such as cyanides or sodium azide



# 262.208(d) – Excess Material

If excess material accumulates before a scheduled removal, the lab must:

- Mark all containers with the date the excess accumulated
- Remove all containers from the lab within 10 calendar days, or the next scheduled removal day, whichever is first
- Except if the excess is one quart of reactive acutely hazardous material, only that material must be removed



# 262.209 - Waste Determinations

- Options – Where to make a HW determination
  - ▣ In the laboratory before the material is removed
  - ▣ Within 4 calendar days after receipt at the central accumulation area
  - ▣ Within 4 calendar days after arrival at an on site permitted or interim status storage unit
- CESQGs ONLY – 40 CFR 261.5(c)(7) states that for purposes of the waste quantity determination required, CESQGs do not have to count unused commercial chemical products generated solely as a result of a lab cleanout at an eligible academic institution conducted under 262.213
  - ▣ However they must be made in the laboratory



# 262.210 – Determinations In Lab

- If unwanted material is determined to be a hazardous waste
  - ▣ The material must be labeled “Hazardous Waste” either on the container or an attached tag – do not change the date on the container
  - ▣ The applicable EPA Waste Codes must also be marked on the container or tag
  - ▣ The material is counted towards the facility’s monthly generator status at that time
- The trained professional must accompany the waste as it is transferred out of the lab
- LQGs and SQGs must ensure the waste is taken directly to an on-site accumulation or storage area



# 262.211 – At Central Area

- Trained professional must accompany waste when it is transferred from the lab to the accumulation area – transfer must be direct
- The waste becomes subject to HW generator standards immediately, except for container labeling
- The labeling requirement is effective after the hazardous waste determination (within 4 days)
- The accumulation time limit begins when the container arrives at the central area



# 262.213 – Lab Clean Outs

- Section does not apply to items already determined to be “unwanted material” prior to the clean out
- For each laboratory, one time per calendar year unused chemicals may be categorized as “unwanted material” without counting toward the facility’s generator status for on site accumulation
- For purposes of off site management, the waste must still be manifested to a permitted TSDF
- If more than 55 gallons of material, the lab may hold the material 30 days rather than 10 days





# Clean Out Documentation

- Maintain for three years
- Identify the laboratory
- Dates the clean out begins and ends
- The volume of hazardous waste generated during the clean out
  - ▣ Maintain copies of waste profiles, manifests, lab pack container contents sheets, and land disposal restriction notices in accordance with 40 CFR 262.40



# Laboratory Clean-Out Incentives

- Academic Labs Rule (Subpart K) provides regulatory incentives to conduct laboratory clean-outs to promote removal of potentially dangerous old and expired chemicals
- Subpart K incentives include:
  - ▣ No volume limit for laboratory clean-out waste
  - ▣ Instead must remove all laboratory clean-out waste after 30 days
  - ▣ Reduced likelihood of episodic generation by not counting some waste toward generator status which reduces regulatory burden of increasing generator status
- Subpart K laboratory clean-out details:
  - ▣ Incentives can be used one time per laboratory per 12 months
  - ▣ Laboratory clean-outs are not mandatory
  - ▣ HW must still be disposed of safely and properly



# Laboratory Clean-Out Incentives

- Generator regulations don't provide incentives to conduct laboratory clean-outs:
  - ▣ Unused commercial chemicals are not solid waste until a decision is made to discard them
  - ▣ Laboratory clean-outs will often increase generator status (e.g. from SQG to LQG) increasing regulatory requirements called episodic generation
- This leads to labs holding onto chemicals that can expire and degrade over time potentially becoming dangerous



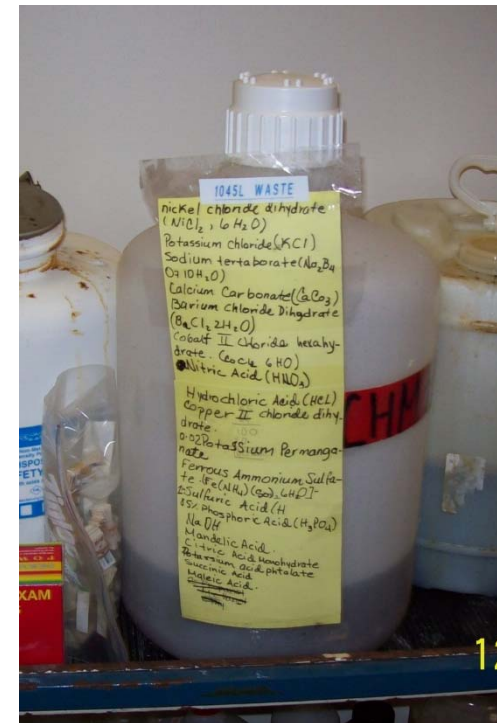
# 262.214 - Lab Management Plan

- ❑ Must be a site specific written document
- ❑ May cover all labs owned by the entity that have opted in, even if the lab is located at sites with different EPA facility identification numbers
- ❑ Describes how the entity will manage materials
- ❑ Must have two parts, described further below
- ❑ Must be available to all staff, students or anyone else at the entity that requests to review it
- ❑ Must be reviewed and revised as needed



# Part I-Lab Management Plan

- Describe procedures for container labeling
- “Unwanted Material” or some other equally effective term to be used consistently
- Identify the manner in which the information associated with the container will be imparted
  - Label
  - Tag
  - Bar Code
  - Inventory Sheet as items are added
- Identify the removal schedule



# Part II – Lab Management Plan: Required Descriptions

- 1) Intended best practices for container labeling and management
- 2) Intended best practices for training workers and students in accordance with their duties
- 3) Intended best practices for providing training to ensure safe on site transfers by trained staff
- 4) Intended best practices for lab material removals
  - Identify schedule for scheduled removals
  - Intended practices for removals within 10 days of a volume exceedance



# Part II – Lab Management Plan: Required Descriptions

- 5) Intended best practices for making hazardous waste determinations, including individual job duties
- 6) Intended best practices for lab cleanouts
  - Procedures
  - Documentation
- 7) Intended best practices for emergency prevention
  - Procedures for notification & response
  - Chemical list for items that become more dangerous when they expire or degrade
  - Procedures for safe disposal
  - Procedures for timely characterization of unknowns



# 262.215

“Unwanted Material” that is not solid or hazardous waste is no longer subject to Subpart K after the waste determination has been made

- The new exemptions for recyclable secondary materials may apply to materials that would otherwise be regulated hazardous waste
- Separate notifications are required to take advantage of these exclusions





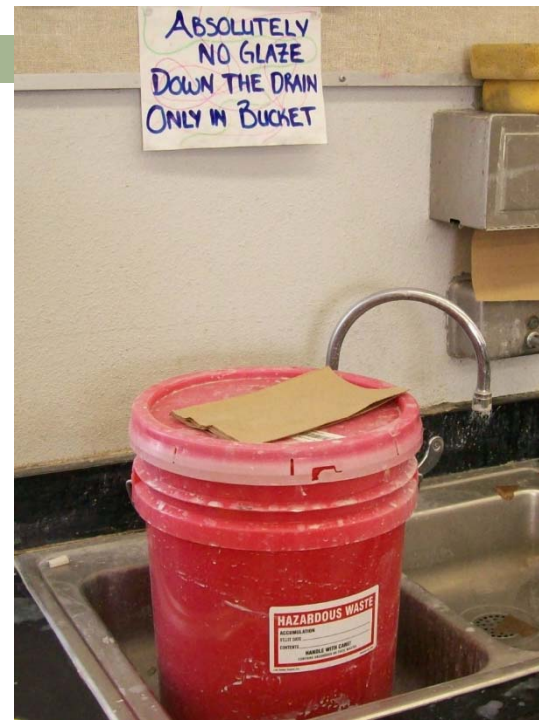
# 262.216

Non laboratory waste generated at an eligible academic entity is still fully regulated

- ❑ Maintenance Shops
- ❑ Physical Plant
- ❑ Grounds Maintenance
- ❑ Waste from clinical labs at student health centers not associated with teaching or research



# Art Studios are Labs



Photography  
Print Making  
Ceramics  
Sculpture  
Painting



# QUESTIONS??

**Janine Kraemer, CHMM**  
**Program Manager**  
**Compliance & Technical Assistance Program**  
**Hazardous Waste Bureau**  
**505-476-4372**  
**[Janine.Kraemer@state.nm.us](mailto:Janine.Kraemer@state.nm.us)**

