

## CHEMICAL HYGIENE PLAN FOR RSU NO. 5 SCHOOL DEPARTMENT

### POLICY STATEMENT

The RSU No. 5 School Department has made a commitment to provide a safe environment. All personnel have a right to know about health hazards associated with their work. So that personnel can make knowledgeable decisions regarding personal risks, the Laboratory Chemical Hygiene Plan includes policies, procedures, and responsibilities designed to develop an awareness of potentially hazardous conditions or chemicals in the laboratory and to train personnel in appropriate safe working conditions. It is important that employers assume responsibility for work site safety. All employees will have access to pertinent safety information through their supervisory staff. The people who work in any given environment are often best able to detect potential hazards in either the facility or work procedures. When safety concerns arise, employees are encouraged to contact their supervisor. This program is for the benefit and protection of all who use the school facility. It contains information on potential chemical hazards and how they should be handled.

Signed

Superintendent Edw. McDonough Date 11/17/15  
Chemical Hygiene Officer [Signature] Date 11/17/15

**I. Responsibilities**

Specific to this Chemical Hygiene Plan for RSU No. 5 School, employees (teachers, staff), administrators (superintendent, principal), and students all have responsibilities to conform to this standard. The Superintendent is ultimately responsible for chemical hygiene within the institution and must, with other administrators, provide continuing support for institutional chemical hygiene. 29 CFR 1910.1450 (e)(3)(vii) and Appendix A(B)

**A. Administration Responsibilities**

1. Appoint a Chemical Hygiene Officer from within the school system. The Chemical Hygiene Officer is Dennis Ouellette
  2. Implement a Chemical Hygiene Plan conforming to the OSHA Lab Standard (29 CFR 1910.1450).
  3. Ensure that employees receive training regarding the Chemical Hygiene Plan.
  4. Allocate staff time for regular, formal chemical hygiene and housekeeping inspections, including routine inspections of emergency equipment and an annual chemical inventory.
  5. Maintain a record of all chemical exposures and provide employee access to these records as well as any medical records. Ensure confidentiality of all personal records.
  6. Provide resources to ensure that facilities and equipment align with requirements of the Plan.
  7. Phase out mercury in the school and/or school district, per Department of Environmental Protection regulations.
  8. Ensure that the local Fire Department receives a copy of the annual chemical inventory.
  9. List additional administrative responsibilities for lab safety at this school:
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**B. Chemical Hygiene Officer Responsibilities**

1. Work with the administration and science department staff to develop and implement appropriate chemical hygiene policies and practices.
  2. Monitor procurement, use and disposal of chemicals in the lab, including determining that facilities and training levels are adequate for the chemicals in use.
  3. Perform regular safety audits.
  4. Maintain Material Safety Data Sheets (MSDS) for science laboratory chemicals.
  5. Oversee annual chemical inventory. Provide a copy of the current chemical inventory to the front office and local first responders.
  6. Maintain current knowledge of legal regulations regarding laboratory and chemical safety.
  7. Coordinate annual review of the Chemical Hygiene Plan (CHP) by science staff.
  8. Coordinate annual hazardous waste disposal for science department.
  9. Oversee maintenance of appropriate spill kit and materials.
  10. Maintain communication with administration regarding the CHP.
  11. Provide training to colleagues, including administrators, teachers, and facilities staff.
  12. Submit budget for maintenance of lab equipment and inspections.
  13. List additional responsibilities of Chemical Hygiene Officer in this school:
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**C. Teacher Responsibilities**

1. Plan and conduct each laboratory operation in accordance with the Chemical Hygiene Plan and safe work practices.
  2. Develop good personal chemical hygiene habits.
  3. Align curriculum with Chemical Hygiene Plan. Teach good personal chemical hygiene habits. Ensure that students meet their lab safety responsibilities. Prohibit unsupervised work by students.
  4. Participate in annual chemical inventory.
  5. Plan and conduct each laboratory exercise with the least toxic materials. Obtain and review MSDS prior to requesting new chemical.
  6. Annually submit a list of experiments and materials needed to the Chemical Hygiene Officer (CHO).
  7. Label, use, and dispose of each chemical as required.
  8. Maintain laboratory safety equipment.
  9. Maintain spill kits that are consistent with type and amount of chemicals used.
  10. Maintain communication with Chemical Hygiene Officer.
  11. List additional lab safety responsibilities for teachers at this school:
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**D. Student Responsibilities**

1. Understand the experimental procedure before starting to work in the laboratory.
2. Become familiar with the properties and hazards of the chemicals in use.
3. Obey all safety rules and regulations. Wear appropriate personal protective equipment as instructed.
4. Clean personal work area immediately after use. Obey good housekeeping practices.
5. Do not engage in inappropriate behavior (*i.e.* no horseplay).
6. Conduct only the experiments assigned by the instructor. Never perform unauthorized or unsupervised experiments.
7. Never remove chemicals from the laboratory.
8. Never work in the laboratory unless authorized to do so. Never work alone in the laboratory.
9. Report chemical spills and accidents to teacher immediately.
10. List additional lab safety responsibilities for students at this school:

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**E. Custodian Responsibilities**

1. Understand and follow chemical and hazardous waste management regulations and best practices.
2. Clean science laboratories and storage areas with caution.
3. Report chemical spills to CHO and/or administrator. Do not clean up spills without proper training.
4. List additional lab safety responsibilities for facilities staff at this school:

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## II. Basic Safety Rules and Procedures

"The Chemical Hygiene Plan shall include...standard operating procedures relevant to safety and health considerations to be followed when laboratory work involves the use of hazardous chemicals."  
29 CFR 1910.1450(e)(3)(i) and Appendix A(E)

1. Adhere to the intent and procedures of this CHP.
2. Know the safety equipment. Users of the science labs must know:
  - a. The location of eyewash fountains, safety showers, fire blankets, fire extinguishers, first aid kits, and emergency exits;
  - b. How to respond in case of an emergency; and
  - c. How to use the safety equipment. Those expected to use the equipment (e.g. fire extinguishers) must receive proper training.
3. Know the hazards of the materials being used. Read labels carefully to make sure you are using the right chemical. Know how to interpret information from a Material Safety Data Sheet.
4. No horseplay, games, or pranks in the laboratory.
5. Dispose of all waste materials according to instructions. Follow local, state, and federal disposal requirements.
6. Report any accidents or unsafe conditions to Lab Instructor immediately.
7. Assume any chemical mixture is more toxic than its most toxic component. Substances of unknown toxicity will be assumed to be toxic. Do not underestimate the risk of any chemicals.
8. Do not eat or drink in the laboratory. Do not apply cosmetics in the laboratory.
9. Do not taste any chemical. Do not smell chemicals directly.
10. Do not pipette solutions by mouth.
11. Wash hands with soap and water before leaving the laboratory, even if you have been wearing gloves.
12. Promptly flush exposed skin with water. Drench showers are located Locker Rooms.
13. See also **Housekeeping** section of this CHP.
14. Additional basic safety rules and procedures for this school:  
  

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### III. Chemical Procurement

1. Before a chemical is procured, proper handling, storage and disposal methods must be known to those responsible.
2. Purchase the smallest possible amounts. Whenever practical, chemicals should be purchased as pre-diluted solutions to minimize mixing and the chance for improper labeling and storage.
3. No container will be accepted without an adequate label and material safety data sheet.
4. The RSU No. 5 School Department will follow a purchasing policy and procedures to minimize large quantities of chemicals and/or extremely hazardous chemicals from entering the school.
5. No chemical will be purchased in quantities greater than a two-year supply. (Ch. 161 Maine Department of Education regulations)
6. Requests for procurement of new chemicals will be made through the Chemical Hygiene Officer or the High School liaison (principal chemistry teacher). Any concerns about the safety of a requested chemical should be brought to the attention of the Chemical Hygiene Officer or the High School liaison.
7. All chemicals will be received at Freeport High School by qualified lab instructors.
8. The school will not accept donations of chemicals from outside sources.

#### IV. Control Measures

"The Chemical Hygiene Plan shall include... criteria that the employer will use to determine, and implement control measures to reduce employee exposure to hazardous chemicals including engineering controls, the use of personal protective equipment and hygiene practices...." 29 CFR 1910.1450(e)(3)(ii)

##### A. Engineering Controls

Engineering controls are the preferred methods of minimizing exposure to chemicals. Controls must be maintained in proper working order. Engineering controls must not be modified unless testing indicates the changes will not reduce protection. Report improper functioning of engineering controls to the Chemical Hygiene Officer immediately.

1. Laboratory Hoods – will be used for all chemical procedures involving volatile substances with a permissible exposure limit (PEL) less than 50 ppm. Work practices for hoods:
  - a. Keep sash closed when not working in the hood. When working in the hood, keep sash height as low as possible.
  - b. Do not store chemicals inside the hood.
  - c. Do not use hood for disposal of volatile chemicals.
  - d. Minimize interference with the inward flow of air into the hood.
  - e. Maintain face velocity between 75 and 125 feet per minute. At this school the lab teachers are responsible for monitoring the hood and keeping records.
2. Storage cabinets for flammable and hazardous chemicals will be provided and ventilated as needed in compliance with state and federal regulations. The flammable cabinet will be either direct vented to the outside or not vented with gongs left in place.
3. All acids will be stored in an acid cabinet.
4. A general ventilation system will be maintained for each lab with air intakes and exhausts located so as to avoid intake of contaminated air.
5. Additional engineering controls used in this school's science labs include:  

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**B. Protective Clothing and Equipment**

Clothing worn in the laboratory should offer protection from splashes and spills, should be easily removable in case of an accident, and should be fire resistant.

1. Conduct a personal-protective-equipment (PPE) hazard assessment to determine appropriate PPE for conditions, equipment and chemicals being used. List activities requiring PPE and type of PPE required:

Activity	Type of PPE required
chemical handling	chemical goggles, apron
Biological specimen/ dissection materials handling	Goggles, aprons, and gloves

2. Students and staff will wear appropriate PPE to avoid chemical exposure.
  - a. Wear eye protection during chemical transfer and handling.
  - b. Do not wear sandals, perforated shoes, or bare feet in labs.
  - c. Shorts and skirts will not be worn unless a disposable apron is worn.
  - d. Gloves appropriate to the materials and task will be provided. All gloves have a breakthrough time. The teacher will check manufacturer's recommendations.
3. The school will provide required PPE for all employees at no cost.
4. School policy on providing PPE for students:
 

**PPE, to be used at school, will be provided for all students at no cost.**
5. The user must inspect PPE before each use. Defective personal protective equipment will not be used and will be reported to the CHO by the teacher.
6. Each science laboratory will have
  - a. An **eyewash fountain**; and
  - b. An **ABC fire extinguisher**.
  - c. Other safety equipment at this school: an easily accessible drench-type **safety shower** and a **fume/vapor hood** in the main chemistry lab room
7. Fire alarms are located near each lab, at Freeport High School and an emergency telephone is located in each room.
8. Conduct work with toxic chemicals in a fume/vapor hood. Confirm hood performance before use.

Additional protective clothing and equipment practices at this school: **In the chemistry labs, each student is assigned clean safety goggles to use for the year. In the biology labs, goggles are sterilized between uses in a UV sterilizer that is permanently mounted on a wall in that prep room.**



### C. Housekeeping

Each instructor is responsible for keeping his or her workspace clean and is jointly responsible for common laboratory areas.

1. Keep unobstructed access to emergency equipment such as showers, eyewash, fire extinguishers, fire blankets, and emergency exits.
  2. Keep work areas clean and uncluttered, with chemicals and equipment properly labeled and stored. Clean the work area at the end of each operation or each day. Make sure all gas and water outlets are completely shut off. Return all items used in the experiment to their proper storage location.
  3. Dispose chemical wastes according to Department of Environmental Protection hazardous waste or solid waste rules. (Scroll to chapters 850 and 851.)
  4. Secure gas cylinders.
  5. Clean up any spills on the floor or bench immediately.
  6. Additional housekeeping rules for chemical labs in this school:
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### D. Hazardous Material Handling and Storage

Follow all federal, state and local regulations for material handling and storage and waste disposal.

1. Chemicals will be stored in chemical storage rooms in appropriate cabinet, lab teachers will oversee the chemical storage room.
2. All used chemicals and hazardous waste will be stored in chemical storage rooms.
3. All chemicals in the stockroom should be stored according to chemical compatibility. Chemicals will be segregated by hazard classification and compatibility in a well-identified area with local exhaust ventilation.
4. Use appropriate shelving or cabinets. If metal clips are used to hold shelves, they should be inspected for corrosion and replaced as necessary.
5. Store flammable liquids in approved fire cabinets. Where possible, vent flammable cabinets to the outdoors. If not possible to vent to the outdoors, do not vent the cabinet at all (leave the bungs on place).
6. Do not store chemicals on the floor (except gas cylinders) or above eye level.
7. Gas cylinders should be properly secured, segregated according to compatibility, and stored upright and away from heat sources.
8. Restrict access to chemical storage areas through signage and secure locks. No student or unauthorized faculty should be allowed in storage area unsupervised.
9. Make sure shelves holding containers are secure. Attach anti-roll lips on shelves to prevent chemicals from falling.
10. When opening newly received chemicals, immediately read the warning label to be aware of any special storage precautions like refrigeration or inert atmosphere storage.
11. Storage of chemicals is not allowed at the lab bench or areas outside the designated chemical

storage room, such as in aisles, stairwells or hallways or on desks or floors.

12. Maintain a complete inventory of chemicals in the chemical storage room. Inventory science chemicals at least annually. File the annual inventory with the local Fire Department.
13. Any chemicals identified during the inventory as expired, outdated, unlabeled, unknown, or unwanted must be listed for disposal. See **Waste Disposal** section.
14. Mark the acquisition dates on all peroxide forming chemicals, and test them for peroxides or dispose of them after six months.
15. Provide spill cleanup supplies (absorbents, neutralizers) in any room used for chemical storage or use.
16. Exhaust air from the stockroom should be ducted directly to the outside. At Freeport High School CHO is responsible for ensuring that the exhaust air is properly ducted.
17. Use refrigerators of explosion-proof, or explosion safe design only. Standard refrigerators that have not been converted should never be used to store flammable chemicals; a spark from a light bulb may ignite flammable vapors. Do not store food in the refrigerator.
18. Chemicals should be dated upon receipt, dated to be disposed where appropriate, and dated when opened (e.g., peroxides, anhydrous ethers, sodium nitrites, etc.).
19. Chemical containers should be periodically checked for rust, corrosion, and leakage.
20. Chemical labels should state name of chemical, be firmly attached to the container, list hazards, and name responsible party (manufacturer).
21. Chemical labels must be readable and free from chemical encrustation.
22. Maintain a clear access to and from the storage areas. Where possible, two separate exits shall be provided in chemical storage areas.
23. Highly toxic chemicals (LD 50 50 mg/kg) whose containers have been opened will be stored in secondary containers.
24. Lab teachers will examine stored chemicals at least yearly for container integrity.
25. Additional procedures for chemical handling and storage at this school include:

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**E. Inspections**

1. Lab teachers are responsible for activating safety showers and eyewash fountains monthly to flush the lines and to verify proper operation.
2. CHO is responsible for assuring that fume hoods are monitored quarterly to ensure adequate airflow (75-125 linear feet per minute). [Safety Works! can conduct monitoring at no cost.]
3. CHO is responsible for making sure fire extinguishes are the correct type (ABC), at recommended pressure, are easily accessible, and are inspected monthly. Fire extinguishers should be securely mounted on the wall and a sign indicating their location posted above the fire extinguisher.
4. Users should inspect personal protective equipment prior to each use.
5. In addition to daily walk-through inspections, lab teachers are responsible for conducting safety inspections in each lab monthly to monitor housekeeping and to make sure safety equipment is working.
6. Keep records of inspections:

Inspection description	Date inspected	Inspected by

7. Additional inspection procedures at this school include:

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## V. Medical Program

"The Chemical Hygiene Plan shall include provisions for medical consultation and medical examinations in accordance with paragraph (g) of this section." 29 CFR 1910.1450(e)(3)(vi) and (g)

### A. Medical Consultation and Examination

When employees or supervisors suspect that an employee has been exposed to a hazardous chemical to a degree and in a manner that might cause harm to the victim, the victim is entitled to a medical consultation and examination without cost or loss of pay to the employee. Medical records shall be retained according to state and federal laws in accordance with 29 CFR 1910.1020. The events and circumstances that might result in overexposure to a chemical are:

1. A hazardous chemical leaked, was spilled, or otherwise released in an uncontrolled manner.
  2. A hazardous chemical was spilled on the skin or splashed in the eye.
  3. A person displays signs or symptoms that might indicate overexposure to a hazardous chemical including but not limited to rash, headache, nausea, coughing, tearing, irritation or redness of eyes, irritation of nose or throat, dizziness, loss of motor dexterity or judgment.
  4. This school has arranged for OH and R to provide medical consultations/examinations in the event of chemical exposure:
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### B. Exposure Assessment

1. All chemical exposure incidents shall be documented on an accident report form (attach sample form to this plan), along with any action taken. If no further action is taken, the reason for that decision should be included. In this school the School nurse is responsible for investigating chemical exposure incidents.
  2. Method for investigating exposure incidents at this school: \_\_\_\_\_
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### C. First Aid

1. Personnel trained in first aid should be available during work hours. The following, who have received first aid training and are expected to render first aid, is the **School nurse**.
2. The closest emergency room with medical personnel is **Mid-Coast Hospital Brunswick, ME**

## VI. Signs and Labels

29CFR1910.1450 Appendix A (D)(8)

The following signs and/or labels should be posted prominently in the laboratory:

1. Emergency telephone numbers of emergency personnel, emergency facilities, administration, and the laboratory instructor.

Rescue: 911

Fire: 911

Hospital: 911

Poison Control: 1-800-222-1222

Administration: 865-0928

Lab Instructor: \_\_\_\_\_

Department of Public Safety: 1-800-452-4664

2. Labels on all chemicals and other containers indicating the contents (including waste receptacles) and associated hazards.
3. Location of exits, safety showers, eyewash station, fire extinguisher, fire blanket, and other safety equipment.
4. Label all laboratory refrigerators "NO FOOD STORAGE ALLOWED".
5. Warnings at areas or equipment where special or unusual hazards exist.
6. Additional labeling at this school includes:

## VII. Spills and Accidents

29CFR1910.1450 Appendix A (D)(9)

1. In the event of a spill, staff must contact the CHO **before beginning cleanup**. The CHO or other authorized person *will* assess the nature of the spill using the School's Emergency Response Plan to determine appropriate response. The Emergency Response Plan for this school is located in the office.
2. The responsible staff will evacuate all persons from the spill or accident area until certain that the spill is not hazardous to people in the general area.
3. Lab teacher is responsible for writing the accident report. Freeport High School office will maintain accident records.
4. Each student, teacher and staff member must know immediately what to do and where to go in case of any emergency.
5. At Freeport High School the School nurse is responsible for promptly addressing the needs of people who may have been exposed.
6. The CHO must report the spill to the Department of Public Safety (1-800-452-4664).
7. All waste generated from a chemical spill will be treated as hazardous waste.
8. Custodians and faculty cannot respond to chemical spills unless appropriate training and equipment has been provided. List of people trained to conduct spill response at this school, and date training was conducted:

Employees trained in spill response	Date trained
Lab teachers	
Custodians	

## 9. Additional spill/accident procedures at this school:

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**VIII. Waste Disposal**

"Aim: To assure that minimal harm to people, other organisms, and the environment will result from the disposal, of waste laboratory chemicals." 29 CFR 1910.1450 (Appendix A (D)(11).

Environmental regulations also govern chemical waste disposal. Go to Department of Environmental Protection Rules and scroll to chapters 850 and 851.

1. Prior to the start of each semester, lab teachers will complete an inventory of stored chemical wastes (including virgin chemical stock identified as waste) and submit it to the CHO.
2. The CHO *will* coordinate hazardous waste disposal. Waste will be collected for disposal at least monthly.
3. Indiscriminate disposal by pouring waste down the drain or adding them to the general trash is unacceptable. It is not permissible to neutralize quantities of > 500 milliliters of corrosive hazardous waste or evaporate, distill, filter, or burn other waste chemicals.
4. If large quantities of hazardous chemical wastes are being stored or if a container is full, a hazardous waste pick-up should be scheduled by the CHO within 180 days of the container becoming full.
5. The CHO is responsible for all hazardous waste manifests and associated paperwork.
6. No waste pick-ups will be scheduled during regular school hours.
7. All chemical wastes destined for hazardous waste disposal must be stored in the designated, signed hazardous waste storage area, Room 301, in appropriate DOT approved shipping containers and segregated for compatibility. All containers must have the following information on the label:
  - o "Hazardous Waste"
  - o The chemical contents,
  - o The date that waste was first put in and
  - o The date the container was filled.
  - o In this school, waste is collected, segregated, stored, transported and disposed of as follows:  
Waste will be stored in designated area only and will be disposed of by a licensed company.
8. When a hazardous waste pick-up is needed, this school will contact Biosafe at 854-2609 to transport and dispose of hazardous waste.

NOTE: Most schools are usually considered Small Quantity Generators by the Department of Environmental Protection. Schools that do not know their regulator status should check with DEP (Ann Pistell – 287-7703).

This school is on a (*select one*) *septic system* or *municipal sewer system*.

*If on a septic system:*

No liquid chemicals, other than appropriate cleaning chemicals, will be disposed of down the drain. Non-hazardous liquid chemicals may be solidified for solid waste disposal (i.e. put in the

trash). Custodians must be notified of any chemical put in the trash for disposal. Hazardous waste must not be disposed of down the drain or in the trash. Hazardous waste must be disposed of by a licensed hazardous waste transporter at a facility licensed to accept hazardous waste.

*If on a municipal sewer system:*

Non-hazardous liquid may be disposed of down the drain with the permission of the Freeport sewer district. Corrosive hazardous waste, which is hazardous only due to pH (i.e. no contaminants of heavy metals, solvents, etc.), and which is less than 500 milliliters in quantity, may be neutralized to a non-hazardous waste prior to disposal. Non-hazardous liquid chemicals may also be solidified for solid waste disposal (i.e. put in the trash). Custodians must be notified of any chemical put in the trash for disposal.

**IX. Information and Training**

29CFR1910.1450(f)

1. All employees will be trained on the hazards of the chemicals in the laboratory and how to work safely with them. They will receive training at the time of employment and prior to assignments involving new exposure situations.
2. Teachers are responsible for teaching students about hazards and safe practices.
3. CHO is responsible for ensuring that employees receive information and training to ensure they are aware of the hazards of chemicals that are present in their work area. This training must include the following:
  - a. The contents OSHA Lab Standard and appendices;
  - b. Location and availability of Chemical Hygiene Plan, chemical safety reference materials, including Material Safety Data Sheets and the Permissible Exposure Limits for OSHA regulated substances. In this school:
    - The Chemical Hygiene Plan is kept in the Lab.
    - Material Safety Data Sheets are kept in the lab.
    - Additional safety information is located in the main office.
  - c. Signs and symptoms associated with exposure to hazardous chemicals.
  - d. Methods and observations that may be used to detect the presence or release of a hazardous chemical (visible appearance, odor, monitoring equipment, etc.).
  - e. Knowledge of the hierarchy of protective measures such as engineering controls, work practices, personal protective equipment, and emergency procedures to protect workers from overexposure to hazardous chemicals.
  - f. Emergency procedures to be used in case of a spill or exposure, including clean up methods and equipment needed.
  - g. Use of fire extinguishers and other emergency equipment.

**X. Annual Chemical Hygiene Plan Audit**

29CFR1910.1450 (e)(4)

The lab teachers will conduct an audit of all phases of the Chemical Hygiene Plan each year. They will provide audit results to the CHO, who are responsible for taking corrective action

Administrative Procedure Adopted: 4/13/10

Administrative Procedure Revised: 11/22/11; 11/17/15