

NPDES Compliance Inspection Manual

Appendix AQ



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Appendix AQ – Media-Specific Inspection Components

The information in this appendix was excerpted from NEIC's *Multimedia Investigation Manual*

The information presented in this appendix includes many significant tasks for several media-specific inspection areas. Media discussed include hazardous waste, air, drinking water, toxic substances, and pesticides; emergency planning/community right-to-know and the Superfund program are also discussed.

A. Resource Conservation and Recovery Act (RCRA)

Subtitle C Hazardous Wastes

Evaluating Compliance

Under RCRA Subtitle C, hazardous wastes are subject to extensive regulations on generation, transportation, storage, treatment, and disposal. A manifest system tracks shipments of hazardous wastes from the generator through ultimate disposal. This "cradle-to-grave" management is implemented through regulations and permits.

In determining the facility status under RCRA, the investigator must decide whether the facility is a generator, transporter, and/or Treatment, Storage, and Disposal Facility (TSDF), and whether the facility is permitted or has interim status. Generally, EPA Regional and State offices maintain files for the facility to be inspected. Information may include:

- A list of wastes that are treated, stored, and disposed and how each is managed (for TSDFs)
- A list of hazardous wastes generated, their origins, and accumulation areas (for generators)
- Biennial, annual, or other reports required by RCRA and submitted to the regulatory agencies; these include any required monitoring reports
- A detailed map or plot plan showing the facility layout and location(s) of waste management areas
- The facility RCRA Notification Form (Form 8700-12)
- The RCRA Part A Permit Application (for TSDFs)
- The RCRA Part B Permit application (for TSDFs, if applicable)
- The RCRA permit (for TSDFs, if applicable)
- Notifications and/or certifications for land disposal restrictions (for generators).

Generators

Hazardous waste generators are regulated under 40 CFR Parts 262 and 268. These regulations contain requirements for:

- Obtaining an Environmental Protection Agency (EPA) Identification Number
- Determining whether a waste is hazardous

- Managing wastes before shipment
- Accumulating and storing hazardous wastes
- Manifesting waste shipments
- Recordkeeping and reporting
- Restricting wastes from land disposal (also regulated under Part 268).

The generator regulations vary, depending upon the volume of hazardous wastes generated with fewer requirements for smaller generators. Large Quantity Generators (LQGs) generate greater than 1000 kg of hazardous waste/month, Small Quantity Generators (SQGs) generate less than 1000kg/month but more than 100 kg/month, while Conditionally Exempt Small Quantity Generators (CESQGs) generate less than 100 kg/month. The investigator must determine which regulations apply. Additionally, the investigator should do the following:

- Verify that the generator has an EPA Identification Number that is used on all required documentation (e.g., reports, manifests, etc.).
- Confirm that the volume of hazardous wastes generated is consistent with reported volumes. Examine the processes generating the wastes to assure that all generated hazardous wastes have been identified. Look for improper mixing or dilution.
- Ascertain how the generator determines/documents that a waste is hazardous. Check to see wastes are properly classified. Collect samples, if necessary.
- Determine whether pre-transport requirements are satisfied, including those for packaging, container condition, labeling and marking, and placarding.
- Determine the length of time that hazardous wastes are being stored or accumulated. Storage or accumulation for more than 90 days requires a permit (facilities that generate less than 1000 kg/month of hazardous waste are allowed to store/accumulate for up to 180 days without a permit). Generators storing for less than 90 days must comply with requirements outlined in 40 CFR Part 262.34.
- Verify RCRA reports and supporting documentation for accuracy, including inspection logs, biennial reports, exception reports, and manifests (with land disposal restriction notifications and/or certifications).
- Watch for accumulation areas which are in use but have not been identified by the generator. Note: Some authorized State regulations do not have provisions for "satellite storage" accumulation areas.
- Determine whether a generator has the required contingency plan and emergency procedures, whether the plan is complete, and if the generator follows the plan/procedures.
- Determine whether hazardous waste storage areas comply with applicable requirements.
- Facilities with their own vehicle maintenance garage should be evaluated to assure that wastes such as used oil, anti-freeze, solvents, and paints are disposed of properly.

Transporters Hazardous waste transporters (e.g., by truck, ship, or rail) are regulated under 40 CFR Part 263, which contains requirements for:

- Obtaining an EPA Identification Number
- Manifesting hazardous waste shipments
- Recordkeeping and reporting
- Sending bulk shipments (by water, rail).

Storage regulations apply if accumulation times at transfer stations are exceeded. Transporters importing hazardous wastes, or mixing hazardous wastes of different Department of Transportation (DOT) shipping descriptions in the same container, are classified as generators and must comply with 40 CFR Parts 262 and 268. Investigators evaluating transporter compliance should do the following:

- Verify that the transporter has an EPA identification number that is used on all required documentation (e.g., manifests).
- Determine whether hazardous waste containers stored at a transfer facility meet DOT pre-transport requirements.
- Verify whether the transporter is maintaining recordkeeping and reporting documents, including manifests, shipping papers (as required), and discharge reports. All required documents should be both present and complete.

Treatment, Storage, and Disposal Facilities

Permitted and interim status TSDFs are regulated under 40 CFR Parts 264 and 265, respectively. (40 CFR Part 264 applies only if the facility has a RCRA permit (i.e., a permitted facility); 40 CFR Part 265 applies if the facility does not have a RCRA permit (i.e., an interim status facility). These requirements include three categories of regulations consisting of administrative requirements, general standards, and specific standards. The investigator should do the following activities to determine compliance with Subparts A through E:

- Verify that the TSDF has an EPA Identification Number that is used on all required documentation.
- Determine what hazardous wastes are accepted at the facility, how they are verified, and how they are managed.
- Compare wastes managed at the facility with those listed in the Hazardous Waste Activity Notification (Form 8700-12), the Parts A and B permit applications, and the permit.
- Verify that the TSDF has and is following a waste analysis plan kept at the facility; inspect the plan contents.
- Identify and inspect security measures and equipment.
- Review inspection logs to ensure they are present and complete. Note problems and corrective measures.

- Review training documentation to ascertain that required training has been given to employees.
- Inspect waste management areas to determine whether reactive, ignitable, and incompatible wastes are handled pursuant to requirements.
- Review preparedness and prevention practices and inspect related equipment.
- Review contingency plans; examine emergency equipment and documented arrangements with local authorities.
- Examine the waste tracking system and associated recordkeeping/reporting systems. Required documentation includes manifests and biennial reports, and may include unmanifested waste reports and spill/release reports. Relevant documents may include on-site waste tracking forms.
- Verify that the operating record is complete according to 40 CFR 264.73 or 265.73.

The investigator can determine compliance with standards in Subparts F through H by doing the following:

- For permitted facilities, verify compliance with permit standards with respect to ground water monitoring, releases from solid waste management units, closure/post-closure, and financial requirements.
- For interim status facilities required to monitor ground water, determine what kind of monitoring program applies.
- Depending on the type of investigation, examine the following items to determine compliance:
 - Characterization of site hydrogeology
 - Sampling and analytical records
 - Statistical methods used to compare analytical data
 - Analytical methods
 - Compliance with reporting requirements and schedules
 - Sampling and analysis plan (for content, completeness, and if it is being followed)
 - Conditions, maintenance, and operation of monitoring equipment, including wellheads, field instruments, and sampling materials
 - Construction/design of monitoring system
 - Assessment monitoring outline and/or plan
 - Corrective action plan for permitted facilities and for interim status facilities under 3008(h) enforcement actions.
- For waste management units undergoing closure, review the closure plan (including amendments and modifications), plan approval, closure schedule, and facility and regulatory certification. Examine response actions to any release of hazardous waste constituents from a closed or closing regulated unit.

- For waste management units in post closure care, inspect security measures, ground water monitoring and reporting, and the maintenance and monitoring of waste containment systems.
- Verify that the owner/operator has demonstrated financial assurance regarding closure.

Specific Hazardous Waste Management Units

The technical standards in 40 CFR Part 264 (Subparts I through O and Subpart X) and 40 CFR Part 265 (Subparts I through R) govern specific hazardous waste management units used for storage, disposal, or treatment (e.g., tanks, landfills, incinerators). Standards for chemical, physical, and biological treatment at permitted facilities under 40 CFR Part 264 have been incorporated under Miscellaneous Units, Subpart X. The investigator should do the following:

- Identify all hazardous waste management areas and the activity in each area; compare the areas identified in the field with those listed the permit or permit application, as appropriate. Investigate inconsistencies between actual practice and the information submitted to regulatory agencies.
- Verify that the owner/operator is complying with applicable design, installation, and integrity standards; field-check the design, condition, and operation of waste management areas and equipment.
- Determine how incompatible wastes and ignitable or reactive wastes are managed.
- Verify that the owner/operator is conducting self-inspections where and when required; determine what the inspections include.
- Identify and inspect required containment facilities for condition and capacity; identify lead detection facilities.
- Determine whether hazardous waste releases have occurred and how the owner/operator responds to leaks and spills.
- Verify that the owner/operator is complying with additional waste analysis and trial test requirements, where applicable.
- Check the closure/post-closure procedures for specific waste management units (surface impoundments, waste piles, etc.) for regulatory compliance.
- For landfills, determine how the owner/operator manages bulk and contained liquids.
- Field-check security and access to waste management units.
- Determine the facility monitoring requirements (for air emissions, ground water, leak detection, instrumentation, equipment, etc.) and inspect monitoring facilities and records.

Land Treatment Facilities

When inspecting land treatment facilities, the investigator should also review the following items:

- Soil monitoring methods and analytical data.
- Comparisons between soil monitoring data and background concentrations of constituents in untreated soils to detect migration of hazardous wastes.
- Waste analyses done to determine toxicity, the concentrations of hazardous waste constituents, and, if food-chain crops are grown on the land, the concentrations of arsenic, cadmium, lead, and mercury in the waste(s). The concentrations must be such that hazardous waste constituents can be degraded, transformed, or immobilized by treatment.
- Runon and runoff management systems.

Incinerators

When evaluating compliance of interim status incinerators, the investigator also should review and/or inspect the following items:

- Waste analyses done to enable the owner/operator to establish steady-state operating conditions and to determine the pollutants that might be emitted.
- General procedures for operating the incinerator during start-up and shut-down.
- Operation of equipment used for monitoring combustion and emissions control, monitoring schedules, and data output.
- The incinerator and associated equipment.

For permitted incinerators, the investigator must evaluate the incinerator operation against specific permit requirements for waste analysis, performance standards, operating requirements, monitoring, and inspections. The investigator also should do the following:

- Verify that the incinerator burns only wastes specified in the permit
- Verify methods to control fugitive emissions
- Determine waste management practices for burn residue and ash.

Thermal Treatment Facilities

The investigator evaluating compliance of thermal treatment facilities in interim status also should review the following items:

- General operating requirements, to verify whether steady-state operating conditions are achieved, as required.
- Waste analysis records, to ensure that (a) the wastes are suitable for thermal treatment and (b) the required analyses in 40 CFR Part 265.375 have been performed.

Thermal treatment facilities permitted under 40 CFR Part 264 Subpart X will have specific permit requirements.

Biological Treatment Facilities

The investigator evaluating compliance of chemical, physical, and biological treatment facilities in interim status also should do the following:

- Determine the general operating procedures.
- Review the waste analysis records and methods to determine whether the procedures are sufficient to comply with 40 CFR Part 265.13.
- Review trial treatment test methods and records to determine whether the selected treatment method is appropriate for the particular waste.
- Examine procedures for treating ignitable, reactive, and incompatible wastes for compliance with Subpart Q requirements.

Chemical, physical, and biological treatment facilities permitted under Subpart X will have specific permit requirements.

Air Emission Standards

Owners/operators of TSDFs and generators with 90-day units must comply with air emission standards contained in Subparts AA, BB, and CC of 40 CFR Parts 264 and 265. Subparts AA and BB establish standards for equipment containing or contacting hazardous wastes with organic concentrations of at least 10 percent. This equipment includes:

- Process vents
- Pumps in light liquid service
- Compressors
- Sampling connecting systems
- Open-ended valves or lines
- Valves in gas/vapor service or in light liquid service
- Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connections.

Total organic emissions from process vents must be reduced below 1.4 kg/hr. and 2.8 mg/yr. The other equipment types above must be marked and monitored routinely to detect leaks. Repairs must be initiated within 15 days of discovering the leak.

Subpart CC establishes standards for units managing hazardous wastes with organic concentrations of greater than 500 ppmw at the point of waste origination. The following types of units must be controlled:

- Tanks
- Containers
- Surface impoundments
- Miscellaneous Subpart X units

The facility operating record should contain information documenting compliance with the air emission standards. A complete list of required information is in 40 CFR Parts 264.1035, 264.1064, 265.1035, and 265.1064. Permitted facilities must submit semiannual reports to the Regional Administrator outlining which valves and compressors were not fixed during the preceding 6 months. The investigator can do the following things:

- Visually inspect the equipment for marking.
- Review documentation in the operating record and cross-check this information with that submitted to the Regional Administrator in semiannual reports.

Land Disposal Restrictions

Land Disposal Restrictions (LDR) in 40 CFR Part 268 prohibit land disposal of hazardous wastes unless the waste meets applicable treatment standards as listed in 40 CFR Part 268.40-43. The treatment standards are expressed as (1) contaminant concentrations in the extract or total waste or (2) specified technologies.

Notifications and certifications comprise the majority of required LDR documentation. Notifications tell the treatment or storage facility the appropriate treatment standards and any prohibition levels that apply to the waste. Certifications are signed statements telling the treatment or storage facility that the waste already meets the applicable treatment standards and prohibition levels.

Investigators evaluating hazardous waste generators for LDR compliance should do the following:

- Determine whether the generator produces restricted wastes; review how/if the generator determines a waste is restricted.
- Review documentation/data used to support the determination that a waste is restricted, based solely on knowledge.
- Determine how/if a generator determines the waste treatment standards and/or disposal technologies.
- Verify whether the generator satisfies documentation, recordkeeping, notification, certification, packaging, and manifesting requirements.
- Ascertain whether the generator is, or might become, a TSDF and subject to additional requirements.
- Determine who completes and signs LDR notifications and certifications and where these documents are kept.
- Review the waste analysis plan if the generator is treating a prohibited waste in tanks or containers.

Investigators evaluating TSDFs should do the following:

- Ensure the TSDF is complying with generator recordkeeping requirements when residues generated from treating restricted wastes are manifested offsite.
- Verify whether the treatment standards have been achieved for particular wastes prior to disposal.
- Review documentation required for storage, treatment, and land disposal; documentation may include waste analyses and results, waste analysis plans, and generator and treatment facility notifications and certifications.

Subtitle I—Underground Storage Tanks (USTs)

Evaluating Compliance

Because the tanks are located underground, visual/field observations have limited application in determining compliance for USTs. The UST program relies heavily on the use of documents to track the status and condition of any particular tank.

Interviews with facility personnel are important when determining compliance with any environmental regulation. Questions regarding how the facility is handling its UST program will give the inspector insight into the types of violations that may be found. Topics to be covered in the interview include:

- Age, quantity, and type of product stored for each onsite tank.
- How and when tanks have been closed.
- Type of release detection used on each tank (if any); some facilities may have release detection on tanks where it is not required.
- Type of corrosion protection and frequency of inspections.
- Which tanks have pressurized piping associated with them.

Visual/field observations are used to determine if any spills or overfills have occurred that have not been immediately cleaned up. The presence of product around the fill pipe indicates a spill or overfill. Proper release detection methods can also be verified with field observations.

During the interviews, ask the facility if monthly inventory control along with annual tightness testing is used. If monthly inventory control is used, check the measuring stick for divisions of 1/8 inch. A field check of the entire facility can also be done to determine if any tanks may have gone unreported. Fillports and vent lines can indicate the existence of a UST.

Documents take up the largest portion of time during a UST inspection. Documents that should be reviewed include:

- Notifications for all UST systems
- Reports of releases including suspected releases, spills and overfills, and confirmed releases
- Initial site characterization and corrective action plans
- Notifications before permanent closure

- Corrosion expert's analysis if corrosion protection is not used
- Documentation of operation of corrosion protection equipment
- Recent compliance with release detection requirements, including daily inventory sheets with the monthly reconciliation
- Results of site investigation conducted at the time of permanent closure.

Document retention rules also apply, so be sure to get all of the documents a facility may be required to keep. To determine if the implementing agency has been notified of all tanks, compare the notifications to general UST lists from the facility. Usually, the facility will keep a list of tanks separate from the notifications and tanks may appear on that list that do not appear on a notification form. Also, compare the notifications to tank lists required in other documents, like the Spill Prevention Control and Countermeasures Plan.

RCRA Non-Notifiers

Anytime an investigator is conducting an inspection, they should be aware of the possibility of a “non-notifier” under RCRA. A non-notifier is a facility who has either not notified the EPA or the delegated state of their hazardous waste activity or is managing hazardous waste in an unpermitted unit. The failure to notify may be intentional or the facility may not be aware that the unit should be regulated.

Two specific circumstances for an investigator to be aware of are as follows:

- a facility that is generating a hazardous waste and failed to notify of their generator status and obtain a RCRA I.D. Number.
- a facility that is disposing of hazardous waste in an on-site surface impoundment or landfill that has been determined by the facility to be either a non-hazardous solid waste management unit or an exempt wastewater treatment unit. (When inspecting the wastewater treatment plant, investigators should be aware that the RCRA exemption applies to tanks only. If wastewater meeting the definition of a hazardous waste is discharged into a surface impoundment, this unit is required to have a RCRA permit.)

B. Clean Air Act (CAA)

The Clean Air Act (CAA) is the legislative basis for air pollution control regulations. It was first enacted in 1955 and later in 1963, 1965, 1970, 1977, and 1990. The 1955 and the 1963 Amendments called for the abatement of air pollution through voluntary measures. The 1965 amendments gave Federal regulators the authority to establish automobile emission standards.

Basic Program

The CAA Amendments of 1970 significantly broadened the scope of the CAA, forming the basis for Federal and State air pollution control regulations. Section 109 of the 1970 Amendments called for the attainment of National Ambient Air Quality Standards (NAAQS, 40 CFR Part 50) to protect public health and welfare from the known or anticipated adverse effects of six air

pollutants (as of 1990 the standards were for small particulates, sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone, and lead). The States were required to develop and submit to EPA implementation plans that were designed to achieve the NAAQS. These State Implementation Plans (SIPs) contained regulations that limited air emissions from stationary and mobile sources. They were developed and submitted to EPA on a continuing basis and became federally enforceable when approved.

Section 111 of the 1970 Amendments directed EPA to develop standards of performance for new stationary sources. These regulations, known as New Source Performance Standards (NSPS, 40 CFR Part 60), limited air emissions from subject new sources. The standards are pollutant and source specific.

Section 112 of the 1970 amendments directed EPA to develop standards for hazardous air pollutants. These regulations, known as the National Emission Standards for Hazardous Air Pollutants (NESHAPs, t 40 CFR Part 61), limited hazardous air emissions from both new and existing sources.

The CAA Amendments of 1977 addressed the failure of the 1970 amendments to achieve the NAAQS by requiring permits for major new sources. The permit requirements were based on whether the source was located in an area that did not meet the NAAQS (non-attainment areas). The permit program for sources in attainment areas was referred to as the Prevention of Significant Deterioration (PSD) program.

The CAA Amendments of 1990 significantly expanded the scope of the CAA. Section 112 amendments have amended the NESHAP program with the new provisions called "Title III - Hazardous Air Pollutants." Title III listed 189 hazardous air pollutants (Appendix O) and required EPA to start setting standards for categories of sources that emit these pollutants within 2 years (1992) and finish setting all standards within 10 years. It also contains provisions for a prevention-of-accidental-releases program.

Section 211 of the CAA regulates any fuel or fuel additive for use in motor vehicles if the resulting emission would cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or if the emission products would significantly impair any emission control device or system in general use. There are several provisions under CAA section 211 which regulate fuels such as gasoline, diesel fuel, and fuel additives.

The Federal tampering prohibition is contained in Section 203(a)(3) of the CAA, 42 U.S.C. 7522(a)(3). Section 203(a)(3)(A) of the CAA prohibits any person from removing or rendering inoperative any emission control device or element of design installed on or in a motor vehicle or motor vehicle engine prior to its sale and delivery to an ultimate purchaser. Section 203(a)(3)(A) also prohibits any person from knowingly removing or rendering inoperative any such device or element of design after such sale and delivery and the causing thereof.

Section 203(a)(3)(B) of the CAA prohibits any person from manufacturing, selling, offering for sale, or installing any part or component intended for use with, or as part of, any motor vehicle or motor vehicle engine where a principal effect of the part or component is to bypass, defeat, or render inoperative any device or element of design installed on or in a motor vehicle or

motor vehicle engine in compliance with regulations under this title, and where the person knows or should know that such part or component is being offered for sale or is being installed for such use.

Section 609 of the CAA Amendments of 1990 requires facilities that perform service on vehicle air conditioners to have recycling or recovery equipment and the technicians who use the equipment to be certified by an EPA-approved Section 609 program.

Evaluating Compliance

The following procedures are used to evaluate compliance with the Clean Air Act.

Before an onsite inspection, the documents listed below should be obtained from State or EPA files and reviewed to determine what regulations apply and what compliance problems may exist.

- The State air pollution control regulations contained in the SIP (State regulations and permits form the basis for the air compliance inspection and will vary from State to State).
- Title V operating permit/application; the State operating and construction permits.
- The most current emissions inventory (check for sources subject to SIP, NSPS, and NESHAPs requirements).
- The Volatile Organic Compound (VOC) and Hazardous Air Pollutant emissions inventory. (The VOC inventory may not be included in the emissions inventory, but reported separately under SARA Title III Form R submittal. More information on the former submittal is found in the Emergency Planning and Community Right-to-Know section.).
- The consent decrees/orders/agreements still in effect and related correspondence.
- The most recent inspection reports.
- The most recent monthly or quarterly Continuous Emission Monitoring/Continuous Opacity Monitoring (CEM/COM) reports.
- AIRS Facility Subsystem (AFS) reports.
- Process descriptions, flow diagrams, and control equipment for air emission sources.
- Facility plot plan that identifies and locates the air pollution emission points.
- The on-site inspection should include a review of the records and documents listed below:
 - Process operating and monitoring records to determine if permit requirements are being followed.
 - Fuel analysis reports (including fuel sampling and analysis methods) to determine if sulfur dioxide emission limits and/or other fuel requirements are being met.

- Reports of process/control equipment malfunctions causing reportable excess emissions (refer to SIP to determine reportable malfunctions and report requirements).
- Source test reports to determine if NSPS, NESHAPs, MACTs, and/or major sources have demonstrated compliance with emission standards.
- CEM reports to determine if NSPS and SIP reporting requirements are being met (reported emissions should be checked against raw data for accuracy, and reported corrective actions should be checked for implementation).
- CEMS/COMS certification tests (relative accuracy and calibration drift) to verify that performance specifications at 40 CFR Part 60, Appendix B, are met.
- Records and reports specified in SIP regulations, NSPS, NESHAP, and MACT subparts, and applicable permits.

The onsite inspection should also include the following:

- Visible Emission Observations (VEOs), by inspectors certified to read smoke within the last 6 months, to determine compliance with SIP, NSPS, or NESHAPs opacity limits (document non-compliance with EPA Method 9, 40 CFR Part 60, Appendix A).
- A check of real time CEM measurements to determine compliance SIP, NSPS, or NESHAPs limits (opacity CEM measurements can be compared against VEOs).
- A review of CEM/COM calibration procedures and frequency to determine if the zero/ span check requirements and analyzer adjustment requirements of 40 CFR Part 60 are being met.
- Observations of process and control equipment operating conditions to determine compliance with permit conditions (if no permit conditions apply, control equipment operating conditions can be compared to baseline conditions from stack tests or manufacturer's specifications for proper operation).
- Observation of control equipment operating conditions and review of equipment maintenance practices and records to determine proper operation of control equipment.
- When inspecting a fuel refinery or terminal and when time permits, the investigator should review records to assess compliance with fuel regulations under CAA section 11. Things to look for include compliance with the new reformulated gasoline requirements including Reid vapor pressure levels (during summer months only) and oxygenate levels of outgoing gasoline, the sulfur content of outgoing diesel fuel, and the lead level of unleaded gasoline leaving the refinery.
- When inspecting a facility with its own fleet of vehicles or garage, maintenance records for the vehicles should be reviewed to determine compliance with Section 203 of the CAA. A review of air conditioning repair/maintenance records should also be conducted to determine compliance with Section 609 of the CAA.

- A review of all sources to determine if existing, new, modified, or reconstructed sources have construction and operating permits required by SIP (note other process changes that may not require a permit but could affect emissions). For example:
 - Are there any boilers, stationary diesel engines (emergency generators, lift pumps), or waste gas boilers of any size? What are their capacities, when installed or altered?
 - Are there any incinerators for sludge, grease, grit, screenings, etc.? When were they installed or altered?
 - Are there any storage tanks storing any liquid except water? What are their capacities, when installed or altered?
 - Are there any solvent or gasoline tanks? What are their capacities, when installed or altered?
 - Are there any storage silos for storing solid particles (e.g., lime)? What are their capacities, when installed or altered?
 - Are there any air pollution control devices of the following types? When were they installed or altered?
- Odor control equipment (carbon adsorbers, scrubbers) on such equipment as sludge handling/storage tanks, pump stations, wet-wells, metering stations, grit screening, headworks building?
- Waste gas burners such as digester flares, boilers, etc.?
- Scrubbers on pH adjustment process or pretreatment equipment (usually HCl control)?
 - Is there any shop equipment of the following types? When was it installed or altered?
- Paint spray booths
- Shotblast booths, controlled (any size) or uncontrolled
- Solvent degreasers
 - Is there any wastewater or water treatment equipment designed to reduce Volatile Organic Compounds (VOCs), which may emit air contaminants, such as aeration basins, surface impoundments, air strippers, roughing filters, trickling filters, or oil/water separators? When was the equipment installed or altered?
 - At industrial/commercial wastewater and pretreatment facilities, are there any aeration basins, lagoons, or settling basins? When were they installed or altered?
 - At industrial/commercial treatment works, is there equipment used to dispense odor reducing/masking agents? When was it installed or altered?
 - At industrial/commercial treatment works, is there equipment used directly to manufacture fertilizers (including mixers, blenders, conveyors, etc.)? When was it installed or altered?

C. Safe Drinking Water Act (SDWA)

Basic Program

Public drinking water supply systems (i.e., that serve at least 25 people or have 15 service connections for at least 60 days per year) are regulated by the Safe Drinking Water Act (SDWA) Amendments of 1986. Public water systems are divided into two categories designated as community and noncommunity systems. A community system serves people year-round, whereas a noncommunity system serves people only for a portion of the time (e.g. hotels and campgrounds). Different requirements apply to each type of system. Different requirements also apply depending on whether the water supply source is surface water or groundwater. EPA sets standards [known as Maximum Contaminant Levels (MCLs) for the quality of water that can be served by public water systems. Public systems must sample their water periodically and report findings to the State (or EPA, if the State has not been delegated the authority to enforce the SDWA). The systems must notify consumers if they do not meet the standards or have failed to monitor or report. EPA is on a statutory schedule for promulgating a large number of new MCLs.

The Underground Injection Control (UIC) program was developed pursuant to the SDWA (Public Law 93-523), Part C—Protection of Underground Sources of Drinking Water (40 CFR Parts 124 and 144 through 148). The scope of the UIC program is the determination of the soundness of construction and operation of injection wells as they relate to the protection of all underground sources of drinking water. The UIC program regulates five classes of injection wells, summarized as follows:

- Class I Industrial, municipal, or hazardous waste disposal beneath the lowermost underground source of drinking water (USDW)
- Class II Oil and gas-related wells used for produced fluid disposal, enhanced recovery, hydrocarbon storage, etc.
- Class III Mineral extraction wells
- Class IV Hazardous or radioactive waste disposal above or into a USDW Class V Injection wells not included in Classes I through IV.

Evaluating Compliance

Monitoring requirements for water supply systems and whether the system can be reasonably expected to routinely provide safe potable water should be determined. Many facilities purchase their potable water supply from a nearby municipality. If no further treatment is provided (e.g., chlorination by the facility), the facility remains a "consumer" rather than becoming a "supplier," and consequently does not have the monitoring or reporting requirements that a supplier would have. Nevertheless, the facility does have a responsibility to ensure that their actions do not result in contamination of the municipal water supply (e.g., through cross-connection). The audit team should be alert to these possibilities.

Inspectors should:

- Verify public water system records of monitoring and reports of exceedances of MCLs
- Interview water system personnel to identify potential operations and maintenance problems
- Check for appropriate treatment systems, such as adequate disinfection
- Check for cross-connections to the water supply and distribution system
- Obtain water source, treatment, and service area information
- Verify that sample locations are appropriate and representative for each contaminant (i.e. sample collected in distribution system versus entry to distribution system)
- Verify that sampling techniques and procedures are appropriate for UIC inspections, the following should be reviewed:
 - Current status of wells (active, abandoned, under construction repairs)
 - Types of wastes discharged to wells
 - UIC permit and permit conditions, if applicable
 - Injection well construction
 - Potential pathways of endangerment to Underground Sources of Drinking Water (USDWs)
 - Protection of USDWs from endangerment
 - Frequency and type of Mechanical Integrity Testing (MIT)
 - Annular pressure
 - Annular pressure monitoring
 - Radioactive tracer surveys
 - Installation methods for well plugging
 - Remedial operation
 - Applicability of land disposal restrictions to injection well operations
 - Recordkeeping and evidence documentation
 - Outlets for floor drains
 - Connection to "dry" wells
 - Evidence of surface ponding
 - Presence of septic systems and/or leach fields

Several States and industries have requested approval of alternative mechanical integrity testing methods or variances to accommodate special local hydrogeological conditions, historical practices, or industry interests. Inspectors and field investigators should be cautioned to keep current with special permit conditions and the status of any pending approvals/denials of alternative mechanical integrity testing procedures and variances.

D. Toxic Substances Control Act (TSCA)

This section describes those specific aspects of toxic substances control that are addressed by the Toxic Substances Control Act (TSCA) and its associated rules and regulations (40 CFR Parts 702 through 799).

Basic Program

The regulation of toxins under TSCA is divided into two components for Agency enforcement program management purposes.

1. "Chemical control" covers enforcement aspects related to specific chemicals regulated under Section 6 of TSCA, such as Polychlorinated Biphenyls (PCBs), Chlorofluorocarbons (CFCs), and asbestos.
2. "Hazard evaluation" refers to the various recordkeeping, reporting, and submittal requirements specified in Sections 5, 8, 12, and 13 of TSCA; although, some elements of what might be termed "chemical control" are also addressed in these sections. Sections 12 and 13 of TSCA, which pertain to chemical exports and imports, respectively, will not be covered in this manual because of their special nature and unique requirements.

Prior to discussing TSCA activities at a facility, the investigator must present appropriate facility personnel with copies of two TSCA inspection forms:

1. Notice of Inspection—Shows purpose, nature, and extent of TSCA inspection.
2. TSCA Inspection Confidentiality Notice—Explains a facility's rights to claim information at the facility as TSCA Confidential Business Information.

Before leaving the site, two additional forms must be completed, as appropriate:

1. Receipt for Samples and Documents—Itemizes all documents, photos, and samples received by the investigator during the inspection.
2. Declaration of Confidential Business Information—Itemizes the information that the facility claims to be TSCA Confidential Business Information.

Evaluating Compliance

Chemical Control

Although the controlled substances most frequently encountered during multi-media investigations are PCBs, the investigator should determine if other regulated toxic substances are present at the facility. Currently these include metal working fluids (Part 747), fully halogenated chlorofluoroalkanes (40 CFR Part 762), and asbestos (40 CFR Part 763); additional toxic substances may be regulated in the future. Because the probability of finding PCBs and

PCB-items at the facility is greater than finding other TSCA-regulated substances, the following discussion is directed toward an evaluation of compliance with proper PCB and PCB-item handling procedures. If other TSCA-regulated substances are found, the investigator should consult the regulations for appropriate requirements.

Management of PCBs/PCB-items is regulated under 40 CFR Part 761. In general, these regulations address recordkeeping, marking and labeling, inspections, storage, and disposal.

Facilities that store and/or dispose of PCBs and PCB-items should have EPA-issued letters of approval that contain facility operating and recordkeeping requirements in addition to those specified in 40 CFR Part 761. The investigator must obtain a copy of these approvals and any subsequent notifications to evaluate facility compliance. The inspector should review Part 761.30 to identify uses of PCB transformers which are prohibited beginning October 1, 1990, but with effective dates extending to October 1, 1993. The inspector should also review the requirements found in Part 761.30 that allow the installation of PCB transformers for emergency use.

In general, the compliance evaluation includes obtaining and reviewing information from Federal, State, and local regulatory agency files; interviewing facility personnel regarding material handling activity; examining facility records and inspecting materials handling units. Specific investigation tasks include:

- Inspect all in-service electrical equipment, known or suspected of containing PCBs, for leaks or lack of proper marking. A similar inspection should also be made of any equipment that the facility is storing for reuse. Make certain that any remedial actions were quick and effective in the case of leaks, spills, etc.
- If the above equipment includes any PCB transformers or capacitors, make certain that all relevant prohibitions are being met, such as those involving enhanced electrical protection, as well as other requirements in the Use Authorization section of the PCB Rule. Make certain that any hydraulic or heat transfer systems suspected of containing PCB fluids have been properly tested.
- Determine whether the facility is involved with servicing PCB items or using/collecting/ producing PCBs in any manner. If so, make certain that the appropriate requirements of the PCB Rule are being met.
- Determine whether the facility is involved with either the storage or disposal of PCBs/PCB- items. Inspect all storage for disposal facilities for proper containment, leaking items, proper marking, dates/time limits, location, protection from elements, and other necessary requirements. If the facility disposes of PCBs, make certain that proper methods are being employed and that design and operation of disposal units is in accordance with regulatory requirements.
- Determine whether storage/disposal facilities are complying with the notification and manifesting requirements contained in Subpart K of the PCB Rule.
- Thoroughly review, for purposes of adequacy and regulatory compliance, all records and reports required by the PCB Rule including the following:

- Annual documents
- Inspection logs
- PCB transformer registration letters
- Manifests/certificates of destruction
- Test data
- Spill cleanup reports
- EPA-issued permits or letters of approval
- SPCC plan, if one is necessary
- Operating records
- Notification of PCB activity.

Hazard Evaluation

Establishing compliance with the various hazard evaluation aspects of TSCA is best accomplished through review and evaluation of the recordkeeping, reporting, and submittal data required by the various regulatory components of Sections 5 and 8. In general, Section 5 addresses new chemicals (i.e., those not on the TSCA Chemical Substances Inventory) and Section 8 addresses existing chemicals (i.e., those chemicals that are on the TSCA Chemical Substances Inventory).

Much of the information obtained and reviewed under these two sections of TSCA will be declared "TSCA Confidential Business Information" by company officials, and thus special security procedures must be followed during review and storage of the documents.

40 CFR Parts 703 through 723 should be consulted for an explanation of TSCA terms and definitions. The following list summarizes the different objectives for inspections of the key TSCA Sections 5 and 8 components.

1. Premanufacture Notification (PMN)

- a. Verify that all commercially manufactured or imported chemicals are on the TSCA Chemical Substances Inventory, are covered by an exemption, or are not subject to TSCA.
- b. Verify that commercial manufacture or import of new chemicals did not begin prior to the end of the 90-day review date, and not more than 30 days before the Notice of Commencement (NOC) date. If commercial manufacture or import has not begun, verify that no NOC has been submitted.
- c. Verify the accuracy and documentation of the contents of the PMN itself.

2. Research and Development (R&D) Exemption

- a. Verify that the recordkeeping and notification requirements are being met for all R&D chemicals.
- b. Verify that "Prudent Laboratory Practices" and hazardous data searches are adequately documented.

3. Test Marketing Exemption (TME)

- a. Verify that the conditions spelled out in the TME application are being met, particularly with respect to dates of production, quantity manufactured or imported, number of customers and use(s).
- b. Verify that the TME recordkeeping requirements are being met.

4. Low Volume Exemption (LVE) and Polymer Exemption (PE)

- a. Verify that specific conditions of the exemption application are being met, and that all test data have been submitted.
- b. For an LVE, verify that the 1,000-kg limit per 12-month period has not been exceeded. For a PE, ensure that the chemical structure and monomer composition(s) are accurate.
- c. Verify that recordkeeping requirements for both LVEs and PEs are being met.

5. 5(e)/5(f) Order, Rule, or Injunction

- a. Verify that all conditions of the order, rule, or injunction are being followed, including use of protective equipment, glove testing, training, and recordkeeping.
- b. If a testing trigger is specified, verify production volume and status of testing activity.

6. Significant New Use Rule (SNUR)

- a. Verify that no commercial production has occurred prior to the 90-day review date.
- b. Verify that SNUR notices (i.e., Significant New Use Notices [SNUNs]) have been submitted for all applicable manufactured, imported, or processed chemicals.
- c. Verify technical accuracy of SNUN and completeness of required recordkeeping.

7. Bona Fide Submittals

Determine the commercial production (or import) status and R&D history of those bona fide chemicals not found on the confidential 8(b) inventory. Verify findings against applicable PMN, TME, and other exemption.

8. Section 8(a) Level A PAIR and CAIR Report

- a. Determine if Preliminary Assessment Information Rule (PAIR) and Comprehensive Assessment Information Rule (CAIR) reports have been submitted for all 8(a) Level A listed chemicals manufactured or imported by the facility.
- b. Verify the accuracy of submitted PAIR information, particularly the reported figures for total production volume and worker exposure levels.
- c. Verify the accuracy of submitted CAIR information and if the report meets the date specified in the regulation.

9. Section 8(b) Inventory Update Rule (IUR)

- a. Verify the accuracy of the information submitted in response to the IUR.
- b. Determine that required information was submitted by the deadline for all chemicals subject to IUR.

10. Section 8(c) Recordkeeping

- a. Determine if the facility has a Section 8(c) file and that allegations of significant health and environmental harm on record are properly filed and recorded.
- b. Determine that all applicable allegations have been recorded and filed.
- c. Determine if the facility has a written Section 8(c) policy and if the policy includes outreach to the employees.

11. Section 8(d) Reporting

Determine if copies (or lists) of all unpublished health effects studies have been submitted by manufacturers, importers, and processors for any Section 8(d) listed chemical.

12. Section 8(e) Reporting

- a. Verify that all Section 8(e) substantial risk reports to the Agency were accurate and submitted within the required time frames.

- b. Verify that all substantial risk incidents and/or test results have been reported to EPA.
- c. Determine that the company has an adequate written policy addressing Section 8(e), and that it relieves employees of individual liability.

E. Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

Basic Program

Pesticides are regulated by FIFRA and regulations promulgated pursuant to FIFRA. Under FIFRA, pesticide products must be registered by EPA before they are sold or distributed in commerce. EPA registers pesticides on the basis of data adequate to show that, when used according to label directions, they should not cause unreasonable adverse effects on human health or the environment. States have primary enforcement responsibility for FIFRA.

To ensure that previously registered pesticides meet current scientific and regulatory standards, in 1972 Congress amended FIFRA to require the "reregistration" of all existing pesticides.

Evaluating Compliance

The following list is used in conjunction with specific storage/use/disposal requirements found on pesticide labels. FIFRA requires a written Notice of Inspection and written Receipt for Samples collected.

- Determine types and registration status of all pesticides produced, sold, stored, and used at the facility, particularly if any are restricted or experimental use pesticides.
- Determine use(s) of each pesticide.
- Determine certification status of facility/handlers.
 - Verify who certifies facility/pesticide handlers (EPA, State, Department of Defense).
 - Determine if commercial or private applicator.
 - If restricted-use pesticides are used, check if pesticide applicators are authorized to use these pesticides.
 - Check expiration dates on licenses/certificates.
- Review applicable records.
 - Check previous inspection records and complaints.
 - Check application records.
 - Check restricted-use pesticides records (must be kept at least 2 years). Document suspected violations accordingly.
 - Check inventory records.

- Check training records.
- Inspect storage, mixing/loading, and container disposal areas
 - Check bulk storage areas for compliance with Federal/State rules.
 - Check location, ventilation, segregation, shelter, and housekeeping of pesticide storage handling areas. Check security, fire protection, and warning signs, as may be required by State regulations.
 - Check mixing equipment/procedures for reducing handlers' exposures to pesticides.
 - Check for safety equipment/procedures/use.
 - Check container cleanup and disposal procedures.
- Pesticide waste disposal
 - Check to see that pesticides are disposed of in accordance with applicable label and RCRA requirements.
- Determine measures taken to ensure farm worker safety.
 - Check pesticide use records for re-entry time limit notation.
 - Check pesticide use records for informing farmer(s) or warning workers and/or posting fields.
- Observe actual pesticide application.
 - Observe mixing/loading and check calculations for proper use dilution.
 - Observe when spray is turned on/off with respect to ends of field.
 - Watch for drift or pesticide mist dispersal pattern.
 - Note direction of spraying pattern and trimming techniques.
 - Record wind speed and direction, air temperature, and relative humidity.
 - Observe application with respect to field workers, houses, cars, power lines, and other obstacles.
 - Determine if applicator and assisting personnel are wearing safety gear required by the label.

F. Emergency Planning and Community Right- to-Know Act (EPCRA)

Basic Program

The Emergency Planning and Community Right-To-Know Act of 1986 is a free-standing law contained within the Superfund Amendments and Reauthorization Act (SARA) of 1986. EPCRA is also commonly known as SARA Title III. EPCRA requires dissemination of information to State and community groups and health professionals on chemicals handled at regulated facilities.

An EPCRA inspection verifies that the facility owner/operator has notified State and local agencies of regulated activities; has submitted information to specific State and local agencies; and has prepared and submitted all other required reports.

Evaluating Compliance

Emergency Planning (Sections 301 through 303)

EPA promulgated regulations that identify extremely hazardous substances and the levels to be regulated under EPCRA. The inspector should determine whether the facility is subject to EPCRA regulation. If the facility does meet the requirements, the inspector should verify whether the facility owner/operator:

- Notified the State emergency response agency and the local emergency planning committee that the facility is regulated under EPCRA.
- Designated a facility emergency coordinator to assist the local emergency planning committee in the planning process.
- Notified the local emergency planning committee of the emergency coordinator's identity.

Emergency Notification (Section 304)

The owner/operator of a facility subject to EPCRA must immediately report releases of hazardous substances above the reportable quantity. Substances subject to this requirement are the extremely hazardous substances listed in 40 CFR Part 355 and hazardous listed in 40 CFR Part 302. The inspector should verify whether an immediate notification (within 15 minutes) was made to the:

- State emergency response commission
- Local emergency planning committee
- National Response Center

Community Right-to-Know Requirements (Sections 311 through 312)

Manufacturing facilities subject to the Occupational Safety and Health Act (OSHA) Hazardous Communication regulation (29 *CFR* Part 1910) are required to prepare Material Safety Data Sheets (MSDS) for each hazardous chemical handled at the facility. OSHA revised its Hazardous Communication Regulation, effective September 23, 1987, to require that MSDSs be prepared by nonmanufacturing facilities. The inspector should verify that the facility owner/ operator has sent the following to the State emergency response commission, the local emergency planning committee, and the local fire department:

- MSDSs or a list of chemicals covered by MSDSs found at the facility above the threshold planning quantity (40 CFR Part 370 Subpart B)
- An annual inventory (Tier 11 Form) of hazardous chemicals found at the facility above the threshold planning quantity (40 CFR Part 370 Subpart D).

Toxic Chemical Release Reporting (Section 313)

Covered facilities (40 CFR Part 372.22) that manufacture, process, or otherwise use certain chemicals above specified amounts must annually report releases to the environment. The

inspector should determine whether the facility owner/operator is required to submit this annual report (Form R). The following criteria are applied to determine if the facility is required to report:

- The facility has the equivalent of 10 or more full-time employees.
- The facility is in SIC codes:
 - 10 (except 1011, 1081, and 1094)
 - 12 (except 1241)
 - 20 through 39
 - 4911, 4931, or 4939 (limited to facilities generating power for consumer use by combusting coal and/or oil)
 - 4953 (limited to RCRA Subtitle C facilities) o 5169 and 5171
 - 7389 (limited to facilities engaged in solvent recovery services)
- The facility manufactured or processed in excess of 25,000 pounds or used in any other manner 10,000 pounds or more of the chemicals listed on the Toxic Release Inventory (TRI). The list of TRI chemicals can be found in the current year's reporting instructions.

G. Pollution Prevention

Basic Program

EPA is developing an Agency-wide policy for pollution prevention. Present authorities were established in the 1984 Hazardous and Solid Waste Amendments to RCRA (Section 3002). The October 1990 Pollution Prevention Act established pollution prevention as a national priority. The September 16, 1998, Executive Order 13101, Section 403, Federal Facility Compliance.

Evaluating Compliance

EPA has developed a policy regarding the role of inspectors in promoting waste minimization (OSWER directory number 9938.10). As stated in the policy, to evaluate compliance, the Inspector should:

- Check hazardous waste manifests for a correctly worded and signed waste minimization certification.
- Determine whether this certification was manually signed by the generator or authorized representative.
- Confirm that a waste minimization program is in place by requesting to see a written waste minimization plan, or requesting that the plan be described orally, or requesting that evidence of a waste minimization program be demonstrated. The inspector can, and should, visually check for evidence of a "program in place" onsite.
- Check the Biennial Report and/or Operating record of generators and TSDFs, as appropriate. These documents should contain descriptions of waste minimization

progress and a certification statements. If known omissions, falsifications, or misrepresentations on any report or certification are suspected, criminal penalties may apply and the case should be referred for criminal investigation.

- Check any waste minimization language included in the facility's permits, any enforcement order, and settlement agreements. Verify that waste minimization requirements are being satisfied.

The policy also states that the inspector should promote waste minimization by:

- Being familiar with, recommending, and distributing waste minimization literature.
- Referring the facility to the appropriate technical assistance program for more specific or technical information.
- Providing limited, basic advice to the facility of obvious ways they can minimize their waste. This advice should be issued in an informal manner with the caveat that it is not binding in any way and is not related to regulatory compliance.

The multi-media inspection team can also document cross-media transfers of wastestreams, that can result in false claims of waste minimization. For example, a facility could treat a solvent wastewater stream in an air stripper that has no air pollution control devices. On paper, the amount of solvent discharged to a land disposal unit or sewer system could show a reduction, but the pollutants are going into the air, possibly without a permit. Another example would be a facility claiming a reduction in hazardous waste generated because the waste stream was delisted.