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# 15. MULTIMEDIA CONCERNS

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- Y. Media-Specific Inspection Components
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# 15. A. Introduction

This chapter is intended as a guide for National Pollutant Discharge Elimination System (NPDES) inspectors who become involved in multimedia environmental compliance inspections. Multimedia compliance investigations are intended to determine a facility's status of compliance with applicable laws, regulations, and permits in more than one media.

This chapter and the Media and Specific Inspection Components contained in Appendix Y include a significant amount of material drawn directly from the National Enforcement Investigations Center's (NEIC's) *Multimedia Investigation Manual* revised March 1992 and *Process-Based Inspections Guide*, March 1997. NPDES inspectors participating in multimedia inspections are referred to these documents for further guidance.

Additional training specific to the conduct of Multimedia Inspections is also available, and is recommended to anyone conducting or participating in multimedia inspections.

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## 15. B. Overview of the Multimedia Approach to Inspections

Most inspections can generally be grouped into four categories of increasing complexity, moving from Category A (program-specific compliance inspections) to Category D, (complex multimedia investigations), depending upon the complexity of the facility and the objectives of the investigation. The four general categories of investigations are described below:

Category A: Program-specific compliance inspections (e.g., compliance with NPDES permit requirements), conducted by one or more inspectors. The objective is to determine facility compliance status for program-specific regulations.

Category B: Program-specific compliance inspections, which are conducted by one or more inspectors. The inspector(s) screen for and report on obvious key indicators of possible noncompliance in other environmental program areas.

Category C: Several concurrent and coordinated program-specific compliance investigations conducted by a team of investigators representing two or more environmental and/or statutory program offices. The team, which is headed by a team leader, conducts a detailed compliance evaluation for each of the target programs. The objective is to determine compliance for several targeted program-specific areas. Reports on obvious, key indicators of possible noncompliance in other environmental program areas are also made.

Category D: Comprehensive facility multimedia evaluations not only address compliance in targeted program-specific regulations, but also try to identify environmental problems that might otherwise be overlooked. The initial focus is normally on facility processes to identify potentially regulated activities (from raw material management through final manufacturing and processing) and by-products/wastestreams generated, especially those that may not have been accurately reported to the regulators. When potentially regulated activities or wastestreams are identified, a compliance evaluation is made with respect to applicable requirements and subsequent compliance status. Special attention is often given to pollutants that “change media” (such as air pollutants that are scrubbed into wastewaters).

The investigation team, headed by a team leader, comprises staff thoroughly trained in different program areas. The onsite investigation is conducted during one or more site visits and involve intense concurrent program-specific compliance evaluations, often by the same cross-trained personnel.

Category D multimedia investigations are thorough and, consequently, resource intensive. They are appropriate for intermediate to large, complex facilities that are subject to a variety of environmental laws. Compliance determinations are made for several targeted program-specific areas, and reports on possible noncompliance are prepared.

Generally, all investigations will include pre-inspection planning, use of a project plan, sampling, inspection procedures, and a final report. The major difference will be in the number of different regulations addressed during Categories C and D investigations.

The multimedia approach to investigations has several advantages over program-specific inspections, including:

- A more comprehensive assessment of a facility's compliance status
- Improved enforcement support and better potential for enforcement
- A higher probability to uncover/prevent problems before they occur or before they manifest an environmental or public health risk
- Ability to respond more effectively to non-program-specific complaints, issues, or needs and to develop a better understanding of cross-media problems and issues, such as waste minimization
- When conducted correctly, the multimedia approach to investigations can be less resource intensive and yield more thorough results than numerous single media investigations.
- A higher probability of identifying cross-media issues, such as pollutants that can be "lost" as they change media.
- The opportunity to identify weaknesses in a facility's Environmental Management Systems
- High visibility and possibly enhance deterrent effect on facility Corporate management

The success of a multimedia investigation program is contingent upon a good managerial system and the support of upper management. Since these investigations will often be conducted at larger facilities, adequate resources (time and personnel) must be provided. Good communications during the planning phase are essential to define the scope of the inspection, as well as each team member's role. Communications could also include State officials since State inspectors might also participate as team members. Because of the extent of the State's knowledge of the facility and its problems, State involvement is often critical to the success of the investigation. Similarly, coordination with other Federal or local agencies needs to be addressed, as necessary.

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# 15. C. Multimedia Concerns at NPDES Facilities and the Multimedia Screening Program

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## RCRA

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Many NPDES-regulated facilities are also subject to requirements of the Resource Conservation and Recovery Act (RCRA). RCRA regulates the generation, transportation, treatment, storage, and disposal of hazardous wastes. However, RCRA defers the control of hazardous wastes to the Clean Water Act (CWA) when those wastes are either directly discharged to surface waters under an NPDES permit (the direct discharge exclusion) or indirectly discharged to a wastewater treatment plant (the domestic sewage exclusion).

The costs of hazardous waste management using "traditional" storage, treatment, and disposal methods are rising significantly as facilities comply with the 1984 RCRA Amendments. Consequently, industrial facilities may use the two previously mentioned exclusions as preferred disposal methods. Since many of the 126 priority pollutants listed in the CWA would be considered hazardous waste constituents under RCRA, the discharge of these pollutants should concern the inspectors and operators of wastewater treatment plants. Hazardous wastes discharged to wastewater treatment plants pass through to surface waters unless incidentally removed in sludge, degraded, or "lost" through volatilization or exfiltration during the wastewater treatment process. Additionally, the RCRA waste may inhibit or reduce the effectiveness of the wastewater treatment processes potentially resulting in lower quality effluent discharges. Sludges resulting from the treatment of a hazardous waste may become a regulated waste under RCRA.

Special attention should be applied to situations where RCRA regulated hazardous wastes may be introduced into wastewater treatment facilities with surface impoundments with potential regulatory and groundwater contamination issues.

NPDES permit writers and inspectors may learn whether the facility conducts RCRA regulated activities, and the nature of those activities, from State and/or Environmental Protection Agency (EPA) RCRA authorities, databases such as EnvironFacts (public) or OTIS (EPA only) or while discussing facility industrial processes during the initial stages of a comprehensive compliance investigation. Industrial facilities can use and/or generate hazardous waste. The hazardous wastes may be in the liquid, gas, or solid form. These wastes may be generated from raw materials, off-specification products, or residuals or emissions from the process operations. In addition, waste oils used by process equipment, solvents used in cleaning operations, or sludges from treatment of process wastewaters can be hazardous wastes.

Publicly Owned Treatment Works (POTWs) receiving hazardous wastes by truck, rail, or dedicated pipeline are subject to RCRA permit by rule requirements. Included among these requirements is the provision that corrective action must be taken to remedy any contamination that may have resulted from a release of hazardous waste or hazardous constituents from solid waste management units, such as surface impoundments, to the environment. For example, if a POTW that is subject to these RCRA requirements contaminates groundwater through

leaching or exfiltration, the permittee might be required to investigate the nature and extent of those releases and, where appropriate, implement corrective measures. Guidance on the nature of these requirements, and how they might affect POTWs, is now being developed.

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## RCRA/CERCLA

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Another source of contaminated wastewaters is hazardous waste cleanup actions. Under RCRA and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), EPA, States, and private parties are initiating cleanups of contaminated sites. Much of the waste found at these sites is in liquid form, either as leachate or contaminated groundwater. The treatment, and consequent discharge, of contaminated wastewaters from these sources are expected to increase in the future. These wastes will likely be complex mixtures, requiring careful examination of their composition to determine appropriate treatment techniques.

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## Nonhazardous Sludge

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It has long been known that wastewater treatment results in the transfer of residuals from wastewater effluents to sludges. Several statutes and regulations, including the CWA, are charged with management of these nonhazardous sludges. NPDES and State permits include disposal limitations for municipal sewage sludge as specified in 40 *CFR* Part 503. Many States already impose such requirements. NPDES inspectors will need to become more familiar with the relationship between State sewage sludge requirements and Federal sewage sludge management and disposal requirements under the CWA and those imposed by other statutes and regulations, particularly RCRA and the Clean Air Act (CAA). Municipal sewage sludge that is co-incinerated with other wastes is regulated by the CAA. Municipal sewage sludge that is co-disposed with other waste in a municipal solid waste landfill is regulated by 40 *CFR* Part 258. Industrial sludges are regulated by 40 *CFR* Part 257 if land applied and by 40 *CFR* Part 258 if disposed of in a nonhazardous landfill. (See Chapter Ten for detailed information on the 40 *CFR* Part 503 requirements.)

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## Air

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Air emissions from wastewater treatment units are under increased scrutiny. For many chemical industries (SOCMI facilities, Polymer Facilities, Petroleum Refineries, Vinyl Chloride Plants, etc), EPA has developed CAA regulations that limit the amount of volatile hazardous air pollutants that can be contained in process wastewaters. The purpose of these regulations are to minimize the amount of pollutants transferred from wastewater to the atmosphere. In general, facilities are required to treat wastewater streams that contain volatile hazardous air pollutants before than can be exposed to the atmosphere. It is important to be aware of what chemical constituents are in the wastewater and what impact this may have on a facilities compliance with CAA regulations. In another development, the 1984 RCRA amendments provide for the control of air emissions from authorized RCRA Treatment, Storage, and Disposal Facilities (TSDFs). As a result, wastewater treatment facilities at RCRA TSDFs are now being investigated by RCRA program personnel. It should be noted that remedial actions



may be required at some of these facilities and the regulatory issue of emissions from wastewater treatment facilities needs to be addressed.

Additionally, it is important to investigate facility activities, such as the use of air pollution control devices or other waste management activities, that remove pollutants from one media (such as air) but generate a wastewater stream. These wastewaters may not have been accurately reported in CWA permit applications and may not be properly managed.

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### Multimedia Screening

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Regions and States are encouraged to incorporate multimedia screening into as many single medium inspections as possible (i.e., conduct Category B inspections in lieu of Category A inspections). Obtaining multimedia screening information earlier in the process will help target inspection resources and ensure that all noncompliance issues are included in any facility-specific enforcement strategy. The compliance inspector will use a multimedia screening checklist as a guide for making and recording observations and pertinent information.

The Environmental Services Division Field Branch Chiefs and NEIC have led the development and implementation of EPA's multimedia inspection program, including screening inspections. The National Multimedia Screening Inspection Worksheet, dated May 12, 1993, was developed as a general guideline by a Regional work group led by Region 3. A copy of this worksheet is included in Appendix Z. Regions and States have adapted and customized checklists such as this for their own use.

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# 15. D. NPDES Inspectors and Multimedia Inspections

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## Description of a Multimedia Inspection

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The strategy developed for multimedia inspections usually involves prioritizing the processes and waste management activities, followed by systematically moving from the beginning to the end of a process with emphasis on regulated wastestream generation to final wastestream management. The strategy should be somewhat flexible so that "mid-course corrections" can be made.

The compliance evaluations for each media should be coordinated among all of the investigators and scheduled to make most effective use of the inspectors on-site time and facility contact resources. This schedule should loosely identify time for each media investigator to; review documents, interview facility personnel, conduct on-site observations, and conduct sampling as appropriate. This schedule must be "organic" and modified throughout the on-site investigation to effectively use the limited available time. Daily meetings between team members to discuss progress and needs are recommended to help modify this schedule to meet the team and the facility personnel needs. Personnel training and availability and other logistical factors may result in a combining of compliance evaluations.

The strategy for process and compliance evaluations should be developed by the inspection team coordinator and discussed with inspection team members. This will serve as the basis for explaining inspection activities and scheduling to the company during the opening conference.

The strategy could include checklists that address potential process wastestreams to be examined and media-specific compliance issues. Checklists can be a vital component of a compliance investigation to help ensure that an investigator does not overlook anything important. Checklists serve as a reminder of what needs to be asked or examined and to help an inspector remember the basic regulatory requirements. However, checklists should not be a replacement for curiosity and common sense.

In larger facilities, multiple site visits coordinated by the team leader may be necessary and desirable for completing the inspection and following-up on issues identified during earlier site visits. This approach can lead to a better overall site compliance determination because of the opportunity to review information obtained in the office, then refine the inspection/strategy to "fill in the gaps" during a subsequent site visit.

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## The NPDES Inspector's Role in a Multimedia Inspection

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Each multimedia investigation team member should bring special program expertise and experience and must be well trained in most facets of conducting a field investigation, including sampling. Most of the investigators on the team, including the team leader, should be current field investigators who already possess most of the necessary skills and qualifications. EPA Order 3500.1 sets forth specific training requirements for any EPA investigator who is leading a single media investigation. These training requirements include both general inspection

procedures and media-specific procedures. While an individual leading a multimedia investigation may not have had the media-specific training for each media covered during that multimedia investigation, the team leader should have the media-specific training for at least two of the media.

The team leader has overall responsibility for the successful completion of the multimedia investigation. In addition, other investigators may be designated as leads for each of the specific media/programs that will be addressed. These individuals may work alone or have one or more inspectors/samplers as assistants, depending on workload and objectives. However, all investigation team members should report directly to, and be accountable to, the team leader.

The following are some of the more important skills and qualifications that are necessary for team members:

- The ability to work effectively as a member of a diverse team
- Knowledge of the Agency's policies and procedures regarding inspection authority, entry procedures/problems, enforcement actions, legal issues, and safety
- Thorough understanding of sampling equipment; quality assurance (QA) requirements for sample collection, identification, and preservation; and chain-of-custody procedures
- Knowledge of manufacturing/waste producing processes, pollution control technology, principles of waste management, flow measurement theory and procedures, and waste monitoring techniques/equipment
- Investigatory skills including the ability to gather evidence through good interviewing techniques and astute observations
- Ability to convey information gathered during the inspection into clear, understandable investigation reports.
- Up-to-date experience in conducting compliance inspections
- Good communication skills
- Basic understanding of the procedures of obtaining administrative warrants, including preparation of affidavits, technical content of the warrant application, and warrant and procedures for serving a warrant
- At least one team member should have considerable knowledge of laboratory (analytical) methods and Quality Assurance (QA) requirements, if a laboratory evaluation is to be conducted
- For each of the areas addressed in the multimedia investigation, at least one team member should be trained.

Investigators should conduct themselves in a professional manner and maintain credibility. A cooperative spirit should be cultivated within the inspection team and with facility

representatives, when possible. All investigators should maintain a sensitivity to multimedia issues and implications and freely and routinely discuss, with other members of the team, observations/findings relating to one or more programs.

Investigators should restrict their onsite activities to the normal working hours of the facility, as much as possible. Investigators will need to keep abreast of specific program regulations and should also coordinate, as necessary, with other EPA and State inspectors and laboratory staff (if samples will be collected). The investigation team should implement appropriate field note taking methods and proper document control procedures, particularly when the company asserts a "confidential" claim. Investigators must ensure that important documents (e.g., project plan, safety plan, and log books) are not left unattended at the facility. Sensitive discussions do not take place in front of facility personnel or on company telephones.

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# 15. E. References and Worksheet

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## References

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National Enforcement Investigations Center (NEIC). March 1992. *Multimedia Investigation Manual and March 1997 Process-Based Inspections Guide* (EPA-330/9-97-001).

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