PB96-780 416
EPA530-R-95-073
November 1995

RCRA/UST, Superfund, & EPCRA
Hotline Training Module

Introduction to:
Strategy for Hazardous Waste Minimization and Combustion

Updated as of July 1995

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STRATEGY FOR HAZARDOUS WASTE MINIMIZATION AND COMBUSTION

CONTENTS

1. INTRODUCTION

The Strategy for Hazardous Waste Minimization and Combustion, or "Strategy," is a broad initiative that focuses the Agency's and the public's attention on the minimization and safe combustion of hazardous waste. This training module presents a general overview of the issues EPA has addressed within the context of the Strategy. The first section of the training module provides a detailed description of the history and goals of the Strategy. The remaining sections present an in-depth discussion of hazardous waste minimization and combustion issues.

1.1 HISTORICAL BACKGROUND

Prior to 1980, industrial wastes were virtually unregulated, resulting in uncontrolled or careless management of hazardous wastes and releases of hazardous constituents into the land, water, and air. In 1980, EPA created a comprehensive set of environmental standards regulating hazardous waste management, pursuant to Subtitle C of the Resource Conservation Recovery Act (RCRA). Subtitle C established a "cradle-to-grave" management system that controlled the generation, transportation, and disposal of hazardous waste. This system serves as the foundation for hazardous waste management practices as they have evolved today. In the early years of the program, the predominant form of waste management was land disposal in units such as landfills, waste piles, and surface impoundments. By 1984, it became clear that the existing regulations for land disposal were not adequate to prevent the serious problem of groundwater contamination. Consequently, the RCRA Hazardous and Solid Waste Amendments (HSWA) added several provisions to Subtitle C, placing new controls on the disposal of hazardous waste on the land. Free liquids could no longer be placed in landfills, and disposal in unlined and unmonitored landfills and surface impoundments began to be phased out. Further, EPA mandated that hazardous waste be treated to reduce the toxicity and mobility of hazardous constituents prior to land disposal.

Land disposal treatment standards were promulgated in phases during the late 1980s. Many of these standards were based on the efficiency of combustion technologies which were used to treat the waste before the residue was disposed on the land. As new units received their permits in the late 1980s and early 1990s, combustion capacity significantly increased and the cost of burning hazardous waste substantially dropped. All of these factors led to increasing amounts of hazardous waste being burned in combustion devices. As the amount of hazardous waste being burned increased, so did the number of questions regarding the

safety of these devices. Citizens in areas where incinerators or boilers and industrial furnaces (BIFs) were located challenged the need for and safety of hazardous waste combustion facilities. Others voiced concern that hazardous waste combustion was often being used where waste minimization may have been the preferred approach.

To address citizens' concerns regarding combustion, EPA began examining the role of combustion within the waste management program, and evaluating waste minimization as a means to reduce or eliminate reliance on combustion as a waste management tool. As a result, EPA emphasized the use of waste minimization techniques as a preferred form of waste management.

Waste minimization has long been a component of the hazardous waste management program. As a part of HSWA, Congress enacted several waste minimization requirements mandating that the reduction or elimination of hazardous waste at the source should take priority over management (i.e., recycling, treatment, or disposal) of waste after it is generated. In 1990, Congress further confirmed the key role of pollution prevention in the nation's environmental protection scheme by passing the Pollution Prevention Act (PPA). The hierarchy of waste management options set forth in the PPA mirror those espoused by EPA's waste management programs; i.e., prevention first, then environmentally sound recycling, treatment, and disposal.

1.2 DRAFT STRATEGY ON HAZARDOUS WASTE MINIMIZATION AND COMBUSTION

In May 1993, EPA released the Draft Strategy for Combustion of Hazardous Waste, or "Draft Strategy." The Draft Strategy represented a culmination of opinions and events surrounding waste minimization and combustion issues, as well as the professional judgments of EPA personnel. The Draft Strategy served as a catalyst for discussion and input from all interested parties, or stakeholders, on how best to integrate waste minimization and combustion, and how EPA could better assure the safety of hazardous waste combustion facilities. The following goals form the foundation of the Draft Strategy:

- Establish a strong preference for source reduction over waste management, thereby reducing the long-term demand for combustion and other waste management facilities

- Better address public participation in setting a national source reduction agenda by evaluating technical combustion issues and reaching site-specific decisions during the hazardous waste combustion permitting process

- C Develop and impose rigorous state-of-the-art safety controls on hazardous waste combustion facilities by using the best available technologies and most current scientific knowledge

- C Ensure that combustion facilities do not pose an unacceptable risk and fully utilize legal authorities in permitting and enforcement

- C Continue to advance scientific understanding with regard to waste combustion issues.

For each of these goals, the Draft Strategy outlined a series of short- and long-term actions. These actions were presented to the stakeholders — Regions, states, industry, citizens, and environmental groups — as a starting point for discussion on source reduction and combustion issues. To facilitate the dialogue between EPA and stakeholders, EPA held a National Roundtable discussion on hazardous waste minimization and combustion in Washington, D.C. Topics discussed included the goals of the hazardous waste minimization effort, the roles of stakeholders in achieving waste minimization, mechanisms to implement waste minimization, big-picture issues related to waste minimization, general issues involving combustion of hazardous waste, the control of emissions of toxic metals and toxic organic compounds from combustion units, and other issues involving hazardous waste combustion. EPA also held a series of Regional Roundtables to ensure that all interested parties participated in the discussion of issues concerning the Draft Strategy.

While the Draft Strategy specifically addressed only RCRA-regulated hazardous wastes, its approaches and principles have been incorporated into policies covering other areas under EPA's purview. For example, EPA developed a Superfund policy that, among other things, adopted the public participation and risk assessment features of the Draft Strategy.

1.3 PROGRESS REPORT

In May 1994, EPA released a progress report on the Draft Strategy. The announcement updated stakeholders on EPA's progress in reaching the Draft Strategy goals, while also refocusing attention on the key issues of waste minimization and safe combustion. As part of the update, EPA released several significant documents representing major steps toward ultimately reducing the amount of hazardous waste generated and further ensuring the safety and reliability of facilities that burn hazardous waste. Among the documents released were the RCRA expanded public participation proposed rule, the Combustion

Emissions Technical Resource Document, the Draft RCRA Hazardous Waste Minimization Plan, and the Policy Statement Restricting Combustion of Specified Metal-bearing Inorganic Hazardous Wastes. Each of these documents will be discussed in greater detail in the appropriate sections of this training module.

In addition, EPA incorporated the comments and concerns that stakeholders identified through the Roundtables and other mechanisms by modifying and refining the central goals of the Draft Strategy. The revised Draft Strategy goals covered the following six areas:

- Public Outreach
- Waste Minimization
- Emission Standards and Controls
- Compliance and Enforcement
- Permits and Implementation
- Public Involvement in the Permitting Process and Environmental Justice.

1.4 STRATEGY FOR HAZARDOUS WASTE MINIMIZATION AND COMBUSTION

EPA finalized the Strategy for Hazardous Waste Minimization and Combustion in November 1994. The Strategy represents a major milestone in the Agency's ongoing commitment to integrate waste minimization into the national hazardous waste management program, and assure the safe operation of hazardous waste combustion facilities. The Strategy was the culmination of 18 months of intensive effort by EPA and other interested parties since the Draft Strategy was released in May 1993.

The Strategy set forth EPA's fundamental goals and basic vision with respect to several key areas; however, the Strategy focused on eight key goals. These goals address the areas initially covered in the Draft Strategy as amplified by the many discussions that have taken place since its release. The goals provide the policy and framework for EPA's future actions and for reaching the best possible solutions to the issues that have arisen concerning the management of hazardous waste.

STRATEGY GOALS

1. Waste Minimization

- Reinforce strong preference for source reduction over hazardous waste management in order to reduce both the long-term demand for treatment, storage, and disposal capacity and the quantities of persistent, bioaccumulative, and toxic constituents that need to be managed
- Pursue aggressive use of waste minimization measures with primary emphasis on voluntary actions in partnership with the states, industry, and local communities
- Provide members of the public with greater opportunities to become aware of waste minimization activities in their communities

2. Role of Combustion and Alternative Technologies

- Maintain the appropriate role of combustion and continue to ensure that combustion and other treatment facilities reduce the toxicity, volume, and/or mobility of hazardous wastes in a manner that is protective of public health
- Foster the commercial development and use of alternative treatment and other innovative technologies that are safe and effective in reducing the toxicity, volume, and/or mobility of RCRA industrial process and remediation wastes

3. Emission Standards and Controls

- Develop and impose rigorous controls on combustion facilities based on the assessment of available technologies and current science
- Coordinate efforts under RCRA and Clean Air Act authorities to implement new standards for hazardous waste combustion facilities
- Ensure that hazardous waste combustion facilities do not pose an unacceptable risk to human health and the environment

4. Risk Assessment	C Advance scientific understanding on combustion issues and risk assessment C Ensure that permits are issued at facilities in a manner that protects against unacceptable risks to human health and the environment C Use sound science in decision making
5. Enforcement and Compliance Assistance	C Continue aggressive compliance and enforcement efforts against incinerators and BIFs burning hazardous wastes C Work with industry to ensure that EPA's combustion regulations are understood and followed C Enhance public confidence in Agency oversight activities and facility compliance by promoting public understanding of these activities and increased opportunities for public involvement in the enforcement process
6. Facility Permitting Priorities	C Give higher priority to those facilities for which a final permit decision would result in the greatest environmental benefit or the greatest reduction in overall risk to the public C Assign lower priority to permit decisions on new combustion facilities that are not replacing older facilities
7. Public Involvement in The Permitting Process	C Enhance public involvement opportunities in the process for considering permit applications for combustion facilities C Take appropriate actions to ensure that local communities are fully informed about the RCRA decision-making process (including waste minimization opportunities) and have an opportunity to participate in that process

8. Public Outreach and EPA-State Coordination	C	Continue to facilitate an open and broad national dialogue among all stakeholders on significant hazardous waste issues
	C	Give top EPA priority to working with states as co-regulators of hazardous wastes

EPA does not give any one goal priority over the others. Together, they form an integrated foundation covering related areas of the Strategy. The rest of the module focuses on these individual goals and the actions EPA has taken or plans to take to achieve them.

2. WASTE MINIMIZATION

The term waste minimization includes source reduction and environmentally sound recycling. The first category, source reduction, is defined as any practice that reduces the amount of any hazardous component in the material entering any waste stream or otherwise released into the environment, or reduces the hazards to public health associated with the release (PPA §6603(5)(A)). The term includes equipment or technology modifications, process or procedure modifications, reformulation or redesign of products, substitution of raw materials, and improvements in housekeeping, maintenance, training, or inventory control.

The second category, environmentally sound recycling, is the next preferred alternative for managing those pollutants that either cannot be reduced at the source or those remaining after source reduction. In the context of hazardous waste management, there are certain practices or activities that are defined as recycling. A recycled material is one that is used, reused, or reclaimed; however, EPA believes that recycling activities that closely resemble waste management activities do not constitute waste minimization. For example, burning F005 spent solvent for energy recovery would not constitute waste minimization. Like incineration, burning for energy recovery disposes of hazardous constituents by destruction as well as by releasing toxic constituents into the air. Similarly, any activity in which hazardous waste is recycled by being placed on the land, for example as a dust suppressant or soil conditioner, is considered use constituting disposal, and is analogous to conventional waste disposal in land-based units such as landfills or surface impoundments.

2.1 STATUTORY AND REGULATORY REQUIREMENTS

In addition to establishing a national policy to foster waste minimization, HSWA also included several specific requirements that promote waste minimization. HSWA §3002(b) requires large quantity generators (LQGs) who transport their waste off-site to certify on their hazardous waste manifests that they have a “program in place” to reduce, to the extent economically practicable, the volume or quantity and toxicity of hazardous waste generated. For treatment, storage, or disposal facilities (TSDFs) who generate hazardous waste on-site, HSWA §3005(h) requires an annual certification of a program in place as a condition of any permit issued.

On May 28, 1993, EPA issued interim final guidance on the basic elements of a waste minimization program. The elements include high-level management support, characterization of waste generation and waste management costs, periodic waste minimization assessments, a cost allocation system, technology transfers, and program implementation and evaluation. EPA described this guidance as a “flexible menu” of activities from which facility operators can choose how best to comply with the HSWA waste minimization requirements.

LQGs and interim status and permitted TSDFs that generate waste are also subject to the waste minimization requirements in the biennial report. Specifically, LQGs are required to describe the efforts undertaken to achieve waste minimization and the actual changes in the volume and toxicity achieved relative to other years in a biennial report submitted to the state or EPA (§262.41(a)(6)-(7)). The biennial report requirements for permitted and interim status TSDFs that generate waste parallel those specific to LQGs (§§264.75(h)-(i)/265.75(h)-(i)).

Small quantity generators (SQGs) also must comply with certain minimization requirements. Unlike LQGs and TSDFs who generate waste on site, however, SQGs must only certify on the manifest that a “good faith effort” has been made toward waste minimization (51 FR 35190; October 1, 1986). EPA encourages SQGs to develop waste minimization programs on their own, to show their good faith efforts.

To further encourage waste minimization, EPA sent letters to the Chief Executive Officers and facility contacts for each organization that reported to EPA that it generates large quantities of hazardous waste. The letter served to remind facilities about their waste minimization obligations and encouraged facilities to voluntarily make information concerning their waste minimization program available to the public.

2.2 THE WASTE MINIMIZATION NATIONAL PLAN

As part of EPA’s ongoing commitment to waste minimization, the Agency released the Draft Waste Minimization National Plan, hereafter the “Draft Plan," which proposed a series of initiatives to reduce the amount of hazardous waste destined for combustion, and proposed a longer-term effort to minimize the generation of all hazardous wastes. In November 1994, EPA finalized the Waste Minimization National Plan, hereafter the "Plan," which included outlines of major goals, objectives, and action items to facilitate national reductions in the generation of hazardous waste. The Plan focuses on reducing the generation

and subsequent release to the environment of the most persistent, bioaccumulative, and toxic constituents in hazardous wastes.

The Plan details a set of objectives that reflect five common themes raised by those who commented on the Draft Plan:

- Develop a framework for setting national priorities, identifying constituents of concern, and developing flexible screening tools for identifying priorities at individual facilities

- Promote multimedia environmental benefits and prevent crossmedia transfers of toxic constituents

- Demonstrate a strong preference for source reduction by shifting attention to the nation’s hazardous waste generation at its source

- Clearly define and track progress in implementing source reduction and promoting accountability for EPA, states, and industry

- Involve citizens in waste minimization implementation decisions.

In the beginning, EPA plans to focus on metal constituents in combustible waste streams (Phase I). Phase II will cover all remaining RCRA wastes. For both phases, EPA will develop a list of the highest priority constituents for source reduction and recycling based on the preliminary screening tool set forth in Setting Priorities for Hazardous Waste Minimization.

3. COMBUSTION

The role combustion plays in hazardous waste management has changed dramatically over the last decade and a half. As discussed above, the recognition that land disposal of hazardous waste could present long-term pollution problems prompted combustion to become the preferred method of waste management. The increased use of combustion to dispose of hazardous waste raised concerns about the proper role of combustion in waste management, as well as the safety of combustion. To address these concerns and better ensure safe combustion of hazardous waste, EPA focused on six key issues involving combustion: the role of combustion and alternative technologies, emission and control standards, risk assessments, permitting priorities, enforcement and compliance assistance, and public involvement in the permitting process.

3.1 ROLE OF COMBUSTION AND ALTERNATIVE TECHNOLOGIES

From a technical standpoint, combustion of hazardous waste is a process that substantially and permanently reduces the toxicity and volume of virtually all organic-bearing waste streams principally by destroying organic compounds. In addition, combustion devices can accommodate most types of wastes, including liquids, solids, and sludges. Further, since combustion reduces a waste's toxicity and volume, residues from combustion are generally more amenable to land disposal than the original waste streams. Despite these technical attributes, controversy surrounds the use of combustion since hazardous wastes burned in combustion units often contain toxic organic chemicals, heavy metals, and chlorine, trace amounts of which may be released into the atmosphere in the form of emissions.

As part of the Strategy, EPA is exploring the current role of combustion as a form of waste management, as well as examining the use of alternative waste destruction technologies. The goal of these studies has been to achieve a balance between safe combustion and other waste management options. To ensure safe hazardous waste combustion, EPA has been examining the ability of combustion devices to achieve reductions in waste volume, toxicity, or mobility of hazardous constituents in a manner that is protective of public health. As a result, EPA has focused its efforts on ensuring proper treatment and destruction of hazardous wastes, enforcing regulatory emissions limits, and examining ways to more fully characterize combustion emissions risks. Each of these three initiatives will be discussed in more detail in the appropriate sections.

EPA has also been investigating different technologies that can reduce or eliminate combustion of hazardous waste altogether. EPA established the Technology Innovation Office to accelerate the development and application of innovative hazardous waste technologies for treating remediation wastes that result from the cleanup of spills and releases. Emergence of cost-effective, on-site remediation alternatives has eliminated some of the demand for off-site incineration capacity for remediation wastes. These new technologies have reduced, but not eliminated, the demand for combustion technologies.

Alternative or innovative technologies present potential, but often unrealized, opportunities for reducing the amount of hazardous waste or treating hazardous wastes to reduce toxicity, mobility, bioaccumulation, and mass. EPA has been working to create an environment conducive to innovative technology development and commercialization. As part of this initiative, EPA has established the Vendor Information System for Innovative Treatment Technologies (VISITT) database, which contains vendor-supplied information on technology performance and availability.

3.2 EMISSION CONTROLS AND STANDARDS

EPA established emissions standards and controls for hazardous waste incinerators in 1981 and for BIFs burning hazardous waste in 1991. In 1989, EPA proposed to make the incinerator standards as stringent as the proposed BIF standards. The regulatory emission standards for BIFs are more comprehensive than the standards for incinerators. For example, BIFs must comply with emission limits for toxic metals while the Agency must rely on its omnibus permit authority to control toxic metals from incinerators.

Although the Agency never finalized the proposed upgraded incinerator standards, EPA believes upgraded emission standards for all combustion units are still warranted for several reasons. The emission standards combustion units are presently complying with (e.g., metals, hydrochloric acid, and chlorine) were based on health risks from direct inhalation. The levels of protection provided by such standards is problematic, however, because some pollutants can pose health risks via means of exposure other than inhalation, such as uptake through the food chain. In addition, the current regulations do not always ensure that hazardous waste combustion units are using best operating practices to minimize emissions of hazardous air pollutants. Finally, the current regulations do not establish limits for chlorinated dioxins and furans for most hazardous waste combustion units. Given the high toxicity of some dioxin and furan compounds, and the fact that good operating conditions alone may not always control emissions

of dioxins and furans, EPA believes these emission limits are necessary.

As a step toward upgrading the combustion standards, EPA initiated a study of the best operating practices at incinerators and BIFs burning hazardous waste. The study, known as the Combustion Emissions Technical Resource Document (CETRED), is a first step in this rulemaking process. In CETRED, EPA presented a preliminary technical analysis of achievable emissions levels for particulate matter, dioxins, and furans at hazardous waste incinerators, light-weight aggregate kilns, and cement kilns. These levels will be used as the foundation to determine emission limits in future rulemakings.

The Agency intends to develop the technical emissions standards for hazardous waste combustion units under the joint authority of RCRA and the Clean Air Act. EPA is planning to promulgate the upgraded emission standards in two phases. Phase I will address hazardous waste incinerators, cement kilns, light-weight aggregate kilns, and smelting furnaces. This phase is scheduled to be proposed in September 1995 and finalized in December 1996. Phase II will focus on boilers and certain other industrial furnaces. The Agency plans to propose Phase II in September 1998 and finalize the rule by December 1999.

In the interim, EPA has used several different tools to impose stricter controls on combustion. EPA is currently using the omnibus authority of 40 CFR §270.32(b)(2) to impose stricter emission standards and require site-specific risk assessments as necessary to ensure the protection of human health and the environment. In addition, EPA has clarified that combustion of certain inorganic metal-bearing wastes may be considered inappropriate treatment and a violation of the dilution prohibition under the land disposal restrictions program. This policy effectively banned the combustion of 44 listed wastes and 8 characteristic wastes except in limited circumstances. In the March 2, 1995, Federal Register, EPA proposed to codify the prohibition on combustion of metal-bearing wastes (60 FR 11702). To increase the Agency’s ability to fully characterize the risks associated with current combustion equipment, EPA is working on developing new equipment capable of sampling and analyzing emissions continuously. These continuous emission monitors (CEMs) will provide EPA with more accurate indicators of whether all of the hazardous constituents have been destroyed.

3.3 RISK ASSESSMENT

A fundamental issue that has arisen with the growth in the use of combustion for treatment and disposal of hazardous waste is the

environmental impact of pollutants in the combustion emissions. In the past, most analyses of human health risk associated with atmospheric emissions from combustion sources have focused only on exposure occurring through direct inhalation. Recent studies, however have linked elevated levels of pollutants in soils, lake sediments, and cow's milk to atmospheric transport and deposition of pollutants from combustion sources. These studies indicate that deposition of atmospheric emitted pollutants could result in several indirect avenues of exposure for humans.

Currently, site-specific risk assessments for combustion facilities are required in very limited circumstances, but the overall combustion emission standards are based on risks associated with inhalation exposure only. In light of the new information regarding indirect exposure, EPA is requiring a full multiple-route risk assessment as a major component in the permitting of BIFs and incinerators. To ensure that combustion facilities do not pose an unacceptable risk, EPA has directed that site-specific risk assessments be conducted at incinerators and BIFs during the permitting process. EPA recommends that these risk assessments address not only risks from direct exposure pathways (e.g., inhalation) but also those risks associated with indirect routes of exposure (e.g., through the food chain). Thirty-one risk assessments are currently underway. To assist Regions and states conducting risk assessments, the Agency has released a document entitled Exposure Assessment Guidance for RCRA Hazardous Waste Combustion Facilities.

3.4 FACILITY PERMITTING PRIORITIES

EPA regards permitted combustion units as environmentally more protective than interim status combustion units because site-specific permit provisions provide better environmental protection than general interim status standards. Hence, to further the goal of safer combustion, the Strategy places a high priority on bringing interim status BIFs and incinerators under full permit controls and low priority on permitting new combustion capacity. The Agency has set a deadline of May 1994 for all interim status commercial BIFs to submit Part B applications and a deadline of May 1995 for all noncommercial BIFs to submit Part B applications. Currently, Regions and states have requested all permits for all commercial BIFs operating under interim status and have begun the process for noncommercial BIFs. The Agency has also stated that permit renewals may receive special consideration if the final permit decision results in the greatest environmental benefit.

In addition, EPA focused attention on the process governing the denial of final permits because of the facility's inability to

demonstrate compliance with the permit requirements of RCRA. Under the regulations, a facility can petition the Environmental Appeals Board to review a permitting decision within 30 days of that decision. The filing of a petition for review with the Board automatically stays the effective date of the permitting authority's decision until the Board takes final action on the petition and the permitting agency issues a final permit based on the Board's decision. When a facility appeals a decision denying its permit application or challenges permit conditions that are more stringent than the applicable interim status standards, the facility can continue to operate under these less stringent standards until a final decision has been made. To ensure the prompt cessation of hazardous waste combustion at facilities that have been denied a final permit, EPA directed the Board to give its highest priority to appeals of RCRA permit denials for interim status combustion facilities.

3.5 ENFORCEMENT AND COMPLIANCE ASSISTANCE

Hazardous wastes burned in combustion units often contain toxic compounds which can harm human health if released into the environment in sufficient quantities. For this reason, EPA has focused on ensuring that all combustion units are in full compliance with existing BIF and incinerator regulations. Since May 1993, EPA has undertaken three major enforcement initiatives in conjunction with the states. The initiatives involved 51 complaints and 43 settlements, all of which addressed hazardous waste combustion violations. The enforcement actions proposed over $31.5 million in new civil penalties, while collecting nearly $6 million in settlement of ongoing actions. In several instances EPA found that some of the incinerators and BIFs failed to analyze wastes prior to burning them, fed more wastes into the combustion units than could be safely handled, exceeded emissions limits, operated without automatic waste feed cutoff systems, or violated other important requirements. These types of violations seriously compromise the effectiveness of hazardous waste combustion and create significant risk to humans and the environment from exposure to toxic chemicals. The three enforcement initiatives complement other steps EPA has taken, or is the process of undertaking, to work with industry to ensure that EPA's regulations are understood and followed.

To provide compliance assistance, EPA has held compliance workshops with industry groups and will seek to increase the public's understanding of, and involvement in, the enforcement process. As part of this initiative, EPA has released the EPA/CMA Workshop Transcript. EPA also released a document on waste analysis at combustion facilities to assist these

facilities in complying with waste analysis requirements, entitled Waste Analysis at Facilities that Burn Hazardous Waste.

3.6 PUBLIC INVOLVEMENT IN THE PERMITTING PROCESS

Public participation provides an opportunity for the public to express its views to the permitting authority and the applicant, and enables both to give due consideration to the public's concerns. RCRA §7004 directs EPA to include public participation in the development, revision, implementation, and enforcement of any regulation, guideline, information, or program under RCRA. Further, EPA is specifically required to integrate public participation into the permitting process. Since 1980, EPA has had regulations in place to ensure adequate public involvement throughout the permitting process. Under 40 CFR Part 124, the public has several opportunities to comment on the permit in the later stages of the process.

On June 2, 1994, EPA proposed regulations to provide earlier opportunities for public involvement in the TSDF permitting process and to expand public access to information throughout the permitting process and the operating lives of TSDFs (59 FR 28680; June 2, 1994). In the proposed rule, the Agency attempted to address the concern, expressed by many stakeholders in the area of RCRA permitting, that current procedures involve the public too late in the process, provide inadequate information, and may not provide an equitable opportunity to participate. Concurrent with these growing concerns, EPA emphasized the need for more public involvement in all of its activities.

The proposed rule would require an applicant to hold an informal meeting before submitting an application for a RCRA permit. The proposed rule would also require the applicant to publicize the meeting in a number of ways, including a display advertisement in a newspaper, a radio advertisement, and on a sign posted at the property. The rule would direct the permitting agency to mail a notice to interested people when the facility submits its application. The notice will tell members of the public where they can examine the application while the Agency reviews it.

The proposed rule would give the permitting agency authority to require a facility owner/operator to set up an information repository at any time during the permitting process or the permit life. The repository will make important permitting information available to the public. Finally, the rule would also require combustion facilities to notify the public before holding a trial burn. EPA expects the proposed rule to be finalized by late summer 1995.

ENVIRONMENTAL JUSTICE

As part of the Strategy, EPA has worked toward ensuring participation of all parties affected by combustion issues. Over the last decade, concern about the impact of environmental pollution on particular population groups has been growing. There is a widespread belief that minority and low-income populations may bear disproportionately high and adverse human health and environmental effects from pollution. This belief has resulted in a movement to ensure environmental justice for all populations.

EPA is currently studying the best way to address the environmental justice concerns throughout all of EPA's Office of Solid Waste & Emergency Response (OSWER). Under the Strategy, EPA has taken significant action on several issues related to environmental justice. First, EPA is improving the public participation process for permitting TSDFs to allow environmental justice issues to be raised earlier in the process. Second, through the Strategy, EPA will establish uniform standards for all combustion facilities which will be protective of the health of all populations. Third, the Agency is performing analyses of the socioeconomic characteristics around combustion facilities in an effort to examine environmental justice issues in these sectors. In addition, EPA established an interoffice Siting Task Force to identify the options available for addressing various concerns related to siting RCRA hazardous waste facilities. EPA is in the early stages of developing a methodological approach or approaches for assessing the racial and ethnic makeup and income levels of the neighborhoods around the facilities that represent several industrial sectors.

4. CONCLUSION

EPA remains committed to the principle that the best approaches to hazardous waste minimization and management will be most easily found and implemented in a spirit of cooperation and partnership with all interested parties. To that end, EPA has held one National and four Regional Roundtables and hundreds of individual meetings on source reduction, recycling, combustion, public participation, enforcement, and other issues since May 1993. In response to citizen requests for greater availability of information on the Strategy, EPA has made key documents available on electronic networks and has begun a Strategy Update newsletter. EPA will continue to ensure broad and open discussions among all interested parties and, in particular, to foster a mutual exchange of issues and concerns between RCRA facilities and their surrounding communities. The Hotline will play a major role in providing stakeholders information about this effort.