BACKGROUND DOCUMENT

RESOURCE CONSERVATION AND RECOVERY ACT

SUBTITLE C - HAZARDOUS WASTE MANAGEMENT

SECTION 3004 - STANDARDS APPLICABLE TO OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

PARTS 264 AND 265

SUBPART B - GENERAL FACILITY STANDARDS

SECTION 264.14 STANDARDS FOR SECURITY

SECTION 265.14 INTERIM STATUS STANDARDS FOR SECURITY

U.S. ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF SOLID WASTE

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FOREWORD

This is one of a series of documents providing support and background information for regulations issued under Section 3004 of the Resource Conservation and Recovery Act (RCRA). This Background Document is divided into two parts. The first part contains introductory material which addresses the Congressional authority for the regulation, key definitions used in the regulation, examples of damage incidents which illustrate the need for the regulation, and a description of precedents set for the regulation by state and/or other Federal statutes. The second part of this document describes the regulation as originally proposed, summarizes and responds to comments received that relate to the proposed regulation, and indicates the Agency's rationale for the final regulation.

On December 18, 1978, in §250.43-2 of the RCRA Section 3004 regulations, the Agency proposed standards for security at hazardous waste facilities. As specified in §250.40(c)(2)(i) of the proposed rules, the proposed §250.43-2 standards also applied to facilities with interim status. This document addresses these proposed security standards.

The text of the final standards for security is contained in Appendix II of this document.

INTRODUCTION AND RATIONALE FOR THE REGULATION

I. RCRA Authority for the Regulation

In Section 3004 of Subtitle C of the Solid Waste Disposal Act, as substantially amended by the Resource Conservation and Recovery Act (RCRA) of 1976, as amended, 42 U.S.C. §§6901 *et seq.*, the Congress of the United States mandates the Administrator of the Environmental Protection Agency to establish such standards for hazardous waste treatment, storage, and disposal facilities as may be necessary to protect human health and the environment. Performance standards which include the *control of access* to hazardous waste facilities certainly are authorized by Section 3004 of RCRA.

The discussion of "open dumps" in the House Report on RCRA,[1] describes the potential hazards of "open dumping".* These hazards include harm to the environment (e.g., from fire and injury to people who enter these disposal sites without authorization).[2] The Legislative History describes an incident in which several Indian children were injured while playing at a dump.[3] Clearly, if such incidents are to be prevented, access to solid waste facilities must be controlled.

To fully comply with the Section 3004 mandate to promulgate standards which will protect human health and the environment, EPA believes that regulations are necessary which

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* Although the House Report's discussion on "open dumps" deals with solid waste, because hazardous waste is a subset of solid waste, the discussion applies here.

will ensure that access to hazardous waste management facilities is controlled. EPA is promulgating these regulations jointly under the authority of Section 3004 and under Section 2002(a)(1) of RCRA, which authorizes the Administrator to "prescribe...such regulations as are necessary to carry out his functions under this Act (RCRA)".

II. Damage Cases

The Agency believes that the following damage incidents are good examples of the types of damage that can result when access to hazardous waste is not controlled. They provide part of the rationale for controlling access onto hazardous waste management facilities:

(1) In 1972, an unsuspecting farmer found mercury-treated grain at the Wilson Creek dump in Grant County, Washington. He hauled it to his farm for livestock feed. The episode was discovered just before the farmer planned to use the grain.[4]

(2) In 1969, about 100 bags of grain treated with methyl mercury type seed dressing were discovered at a community dump in New Mexico. Public health authorities established that some of this dumped grain had been scavenged and used as animal feed in the area. As a result, a large number of hogs, chickens, and other animals had to be quarantined.[5]

Damage incidents (1) and (2) illustrate the need to control access to hazardous waste facilities in order to prevent unauthorized scavenging and resulting public health problems.

(3) Several sheep and cattle and a foxhound died, and many cattle became seriously affected, on two farms close to a factory producing rodenticides and pesticides in Great Britian. The drainage from the factory led into a succession of ponds to which the animals had unrestricted access, and from which they apparently drank.[6]

This damage incident illustrates the need to control access of livestock, as well as people, onto hazardous waste facilities. This control is needed, not only to protect the health of the livestock, but also to protect the health of the people who may consume the livestock.

(4) A large number of barrels containing flammable chemical residues are stored in an unfenced area adjacent to a low-income housing project in Washington, D.C. An alley separates the site from an elementary school and adjoining playground. Chemical-laden surface water run-off travels from the storage site to the school property. In the mid-1970's, school children set fire to the drums, sending flames high into the sky. School employees told EPA officials that children often play in/on the drums after school, and that children scatter the drums onto the school property almost every weekend.[7] In October, 1979, the Department of Environmental Services for the District of Columbia advised the owner of the site that (among other things) the inadequate security system at the site should be corrected.[8]

This damage incident illustrates the potential dangers that exist when hazardous waste facilities are not segregated from the public. Although no one was hurt as a result of the fire which the children set, if a similar incident occurs again, the outcome may not be as fortunate.

III. State Regulations

EPA reviewed the solid waste management regulations of 15 States, listed in Table 1, to assess the State governments' perceived need to control access to solid and/or hazardous waste management facilities. The fifteen States chosen for this review are geographically representative of those States which either generate the largest amount of hazardous waste

or have well-established regulations for managing solid and/or hazardous waste.[9] Many of the fifteen States meet both of these criteria.

TABLE 1

STATES CHOSEN FOR REGULATION* ANALYSIS

(By EPA Region)

Region	State	Region	State
I	Connecticut Rhode Island	VI	Arkansas Oklahoma
II	New York	VII	Iowa
III	Maryland	VIII	Montana
IV	Tennessee	IX	California Hawaii
V	Illinois Minnesota	X	Oregon Washington

* Citations for these regulations are contained in Appendix I.

All of the 15 States' regulations that were reviewed dealt with security at solid and/or hazardous waste facilities. Seven of the States' regulations take the form of general performance standards, and all seven require that access to facilities be controlled. Many of the seven suggest ways to do this, but none require any one particular method to control access.

FENCING: On the other hand, nine States require that facilities be surrounded by fences, although none of these states specify the height, or the construction materials.

GUARDED ENTRANCES: Three of the nine States also require that entrances to facilities be locked or guarded when facilities are not in operation. One of the nine requires that entrances to facilities be locked or guarded 24 hours a day.

In addition, two of the States which don't specifically require fencing, do require that access to the facility be prevented during non-operating hours. However, they do not specify how this is to be done.

SIGNS: Seven States require that signs be posted at facilities. Six of these States require that the signs be posted at the entrance(s) to facilities. One State also requires that signs be posted around the periphery of disposal areas, while another State doesn't specify any location for the signs.

Three of the seven States require that these signs provide a warning of the presence of hazardous waste. However, none of the States specify the size of the sign or the letters on the sign, although one State does require that the sign be legible from a distance of at least 25 feet.

LIVESTOCK: Two States specify that the entry of livestock should be controlled at facilities.

From this review, the Agency concluded that, although there is widespread agreement that access to facilities needs to be controlled, these States have chosen various ways of proceeding. There seems to be an even split between those

States whose regulations for security are performance-oriented vs. those whose regulations are design-oriented.

What is clear, however, is that controlling access to hazardous waste facilities is viewed as an important part of each of the fifteen States' regulatory program for solid and/or hazardous waste.

ANALYSIS OF STANDARDS FOR SECURITY, ORGANIZED BY SUBJECT

Standards for security applicable to owners or operators of hazardous waste facilities were specified in §250.43-2 of the RCRA Subtitle C regulations proposed on December 18, 1978. As specified in §250.40(c)(2)(i) of the proposed rules, these standards also applied to owners or operators of facilities with interim status.

Some of the proposed security standards contained "Notes" which provided conditions for variances to the standards. Obtaining a variance to these standards, required the owner or operator to demonstrate to the Agency that his facility met the conditions for a variance to the standard. To avoid the necessity of interacting with the Agency during the interim status period, the final security standards applicable to facilities with interim status are slightly different than those standards applicable to permitted facilities. The final interim status standards are written so that an owner or operator is allowed to use his judgment as to whether or not a variance to a standard is applicable to his facility. The standards applicable to permitted facilities, on the other hand, require that the owner or operator demonstrate to the Agency why a variance to a standard should be granted to his facility. These differences are highlighted in the discussion of the final standards for security, as applicable.

I. Subject: CONTROLLED ACCESS

A. Summary of Proposed Standards

The proposed standards required that:

1. The active portion of a facility be surrounded by a six foot fence, unless the active portion was segregated by a natural or artificial barrier that was capable of preventing the unauthorized or unknowing entry of persons and livestock onto the active portion of the facility; and

2. The entrance to the active portion of a facility be:

- guarded (either mechanically or by an attendant) when the facility is in operation, and
- locked when the facility is not in operation.

B. Rationale for the Proposed Standards

The purpose of the proposed standards was to prevent the unknowing or unauthorized entry of people or livestock onto the active portions of facilities. The Agency is concerned about this type of entry because it could result in:

- injury to people or livestock which come into physical contact with the wastes or equipment within the active portion, or
- damage to human health and the environment if people or livestock disturb the waste or equip-

ment within the active portion. This disturbance could be malicious (e.g., overturning containers, with the resulting leakage of waste), or unintentional (e.g., removal of waste from a facility and use of the waste for purposes for which it is unsuitable, as in damage incident (2)).

The proposed standards focused on protecting the active portion* of the facility. It is this part of the facility that is vulnerable to disturbance, since it is here that wastes are treated, stored, or disposed of.

The proposed security standards did not apply to closed portions** of facilities because the requirements for closure (e.g., final cover for landfills) eliminate the need to control access to these portions of facilities. However, in some cases, compliance with the closure standards (e.g., the requirement to ensure that the final cover is not disturbed) indirectly required facilities to control access to the closed portions of facilities.

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* "Active portion" is defined in Part 260 as "that portion of a facility where treatment, storage, or disposal operations are being or have been conducted after the effective date of Part 261 of this Chapter and which is not a closed portion.

** "Closed portion" is defined in Part 260 as "that portion of a facility which an owner or operator has closed in accordance with the facility closure plan and all applicable closure requirements.

The damage cases described in Section II of this document illustrate that, in the past, unknowing or unauthorized entry onto facilities has led to the poisoning of people and livestock. In order to guard against similar occurrences, the proposed rules required that the active portions of facilities be surrounded by a six foot fence. The selection of six feet as the required height of the fence was based on the Agency's belief that most people or livestock would not attempt to scale a six foot fence. However, the Agency also recognized that such a fence may be unnecessary at facilities which are segregated by other types of barriers (e.g., a cliff) which could achieve the same effect as a six foot fence. Therefore, the proposed rules contained a "note" which allowed a variance from the six foot fencing requirement for facilities which were surrounded by equivalent barriers.

Of course, a fence will not prevent people or livestock from entering the active portion of a facility if the gate to the facility is open or unlocked. Therefore, the proposed rules also specified requirements for the entrance to the active portion of a facility. The intent of the proposed standards was to monitor and control the entry of non-facility personnel onto the active portion of a facility during the facility's operating hours, and to prevent them from entering during the facility's non-operating hours.

C. Summary and Response to Comments Received on this Subject

Issue #1: Design vs. general performance standards

a. Summary of Comments:

1. The standards should be written in terms of performance standards because the proposed standards:

- are too restrictive
- may result in ineffective control to facilities in some circumstances (e.g., where facilities are located next to playgrounds).

2. The implicit performance standard in the proposed rules, which required that unauthorized people be prevented from entering a facility, should be changed to require that unauthorized people be deterred from entering a facility, because anyone who is determined to enter a facility can climb a fence or sneak by a guard.

b. Analysis of and Response to Comments:

As was pointed out by the commenters, the proposed rules contained the implicit performance standard that the facility's security system must prevent unauthorized and/or unknowing entry of people or livestock onto the active portions of the facility. However, the Agency agrees that the

level of performance that is expected from a facility's security system should be made explicit in the final rules. Therefore, the security standards have been rewritten to include an explicit general performance standard.

In response to comments received, the level of performance expected of a facility's security system has been modified from that specified in the proposed rules. The Agency agrees with the commenters that it is impossible to design a security system which ensures that absolutely no unauthorized people will enter a facility. Accordingly, the general performance standard in the final rules requires that a facility's security system be designed to prevent the unknowing entry, and to minimize the possibility for unauthorized entry of people or livestock onto the active portions of facilities.

While responding to the commenters' criticism that the standards are too restrictive, the addition of the general performance standard to the final rules should also answer the concerns of those commenters who believe that the proposed standards will not always guarantee their intended result. For example, in the proposed rules, if a facility were surrounded by a six foot fence, the permit

writer would have had a difficult time requiring a higher fence if he thought that the circumstances required it. However, in the revised rules, the height of the fence is not specified (as is explained later under Issue #3). Thus, if the circumstances do warrant special precautions to deter unauthorized entry (e.g., where the facility is located next to a playground), the permit writer will be expressly authorized to require a more imposing barrier than a six foot fence around the active portion of a facility.

Issue #2: Exemptions to the requirements for controlled access.

a. Summary of Comments:

Facilities should not have to comply with the standards if:

- physical contact with the wastes that are present in the active portion of the facility will not injure humans or livestock
- the facility or plant which contains the active portion itself, meets the standards for controlled access
- the facility is located in a remote area, so that it is unlikely that people or livestock will enter the facility.

b. Analysis of and Response to Comments:

The Agency believes that an exemption to the requirement for controlled access is justified only if the waste is sufficiently benign so that people do not need to be kept away from the site because (1) unauthorized and unknowing entry will not injure people (or animals) who might enter the facility, and (2) such unauthorized entry will not injure people, livestock, or the environment. Since these two conditions are rarely concurrently satisfied, the Agency does not expect that many sites will be exempt from the security requirements. For example, at a shallow landfill where the emplaced waste is covered each day, the chances are minimal that anyone will injure themselves from contact with the waste if they unknowingly walk over the active portion. However, damage to the environment could result if heavy foot traffic, or the use of dirt bikes on the active portion, decreased the integrity of the daily cover, thereby exposing the emplaced wastes. Thus, while controlled access to the active portion would not always be needed to protect persons or livestock from injury, it would be necessary to protect the environment. Therefore, the revised rules contain two conditions for an exemption from the requirement to control access onto the active portion of a facility:

(1) physical contact with the waste, structures, or equipment within the active portion of the facility will not injure unknowing or unauthorized persons or livestock which may enter the active portion of a facility, and

(2) disturbance of the waste or the equipment, by the unauthorized or unknowing entry of persons or livestock onto the active portion of the facility, will not cause a violation of the Section 3004 requirements.

EPA agrees that the active portion of a facility need not be protected by an additional fence, or other means specified in the proposed rules, if it is located within a facility or plant which already meets the security requirements. The Agency believes that to erect a fence or other barrier around the active portion, when the facility is already protected, would be unnecessarily expensive, and would not provide additional protection to human health and the environment. Accordingly, EPA has modified the regulations so that an owner or operator can demonstrate that the active portion of his facility complies with the security regulations, based upon the security system of the facility (or manufacturing operation) within which the active portion is located.

The Agency does not agree that facilities located in remote areas should be exempt from the requirement to control access onto the active portions of their facilities because, whether a facility is accessible to ten people or to one thousand people, the potential still exists for a person or animal to physically harm himself, or to endanger human health and the environment, by wandering onto the active portion of a facility. The automobile makes virtually all areas of the country accessible to travellers, so that the remoteness of a facility cannot guarantee that a non-resident will not enter an unprotected facility.

Furthermore, the remoteness of the area in which the facility is located may increase the likelihood of people unknowingly entering an unprotected facility because most people would not expect to encounter hazardous waste in remote areas. Although the requirement for signs (as described later in this document) will decrease the potential for people to unknowingly enter a facility, the Agency believes that additional precautions are warranted because signs can be stolen or defaced. Therefore, the revised rules require that access to facilities be controlled in both remote and populated areas.

Issue #3: The requirement for a six foot fence.

a. Summary of Comments:

The standards should allow methods other than a six foot fence to prevent the unauthorized or unknowing entry of people and livestock onto the active portions of facilities. The alternate methods suggested by the commenters included:

- for a continuously operating facility, keeping the active portion in view of the facility personnel at all times;
- an around-the-clock security system;
- the use of fences of some height other than 6 feet;
- locating the facility in unpopulated areas, in order to reduce the accessibility of the site;
- locating the facility along natural barriers, in order to reduce the accessibility of the site;
- keeping the waste inaccessible, by covering it daily.

b. Analysis and Response to Comments:

The Agency agrees with the general thrust of the commenters' argument that the standard should allow means other than a six foot fence (or the alternatives specified in the "note" to the standards) to prevent entry onto a facility.

Specifically, the Agency agrees that if the active portion of a facility is monitored by an around-the-clock security system, or if the facility is operated continuously, so that the active portion is always within view and control of the facility's personnel, these means would adequately control entry onto the active portion. In either case, entry onto the active portion of the facility can be regulated, so that when an unauthorized person approaches the active portion, the facility guards or other facility personnel can ensure that the person does not enter the active portion. The Agency believes that this approach is particularly appropriate for small facilities, because the area that would need to be subject to surveillance would probably be relatively small. However, the revised rules also allow this approach for large facilities, as long as there are enough people monitoring the active portion to ensure that the entire active portion of the facility is always within the view and control of the facility guards or other facility personnel.

The Agency also agrees that fences of height other than six feet may be used to deter the unauthorized entry of persons or livestock onto the active portion of a facility. For example, a four

foot barbed-wire fence may be enough to deter unauthorized entry onto a facility, and thus may provide the level of protection required in the proposed standard. Therefore, the standard has been revised so that an owner or operator who chooses to surround or partially surround his facility with a barrier in order to deter unauthorized entry onto his facility (as opposed to using a 24-hour surveillance system) may use an artificial barrier (e.g., a fence) or a natural one (e.g., a cliff). The revised standard does not specify the height or construction materials of the barrier. However, the final rules do require that, whatever the type of barrier used, it must be able to prevent the unknowing entry, and minimize the potential for the unauthorized entry, of people or livestock onto the active portion of the facility.

As explained on page 16, the Agency does not agree that simply locating a facility in a sparsely populated area provides adequate protection from the potential hazards of unknowing and unauthorized entry onto a facility.

The Agency also disagrees with the suggestion that covering the waste daily will adequately assure that unauthorized people (or animals) will not hurt themselves if they enter the active portion of a

facility. Since most facilities only use about six inches of soil to cover waste emplaced in a landfill, the emplaced waste can become uncovered if people (or animals) are allowed to walk freely on this cover material, especially if this traffic is uncontrolled. Furthermore, landfills usually are quite deep and have heavy equipment (e.g., bulldozers) either in them or beside them. Although a person (or animal) entering a landfill may not come into contact with waste which has been covered, such individuals may hurt themselves by falling into a landfill cell, or by starting a piece of machinery which they don't know how to operate. Therefore, the Agency rejects the suggestion that access to facilities need not be controlled if the waste is covered daily.

Issue #4: The security requirements at the entrance to the active portion of a facility.

a. Summary of Comments:

1. The standards should allow alternatives to the use of attendants or electromechanical devices for controlling the entry of unauthorized or unknowing people or livestock through the entrance(s) to the active portion of a facility during operating hours. The alternate methods suggested by the commenters included:

- closing or locking the gate
- allowing access only by controlled roadways

2. The standard should require that mechanical or electromechanical devices be connected to the security fence, and that these devices be in operation at all times.

b. Analysis of and Response to Comments:

The Agency does not believe that simply closing the gate to the active portion of a facility is enough to deter unauthorized entry, since unauthorized people can easily open an unlocked gate. However, the Agency does agree that owners or operators should have the option of locking the entrance to the active portion of a facility in order to control access to the active portion during the facility's operating hours. Therefore, the revised standards allow owners or operators to lock the gates to the active portions of facilities, rather than use the methods specified in the proposed standard.

The Agency also agrees that, if the active portion of a facility can only be approached by roadways which are controlled, it is unnecessary to monitor the entrance to the active portion. Therefore, the revised standards also allow the use of controlled roadway access to control access through the entrances to the active portions of facilities.

The standards do not require that all active portions of facilities be surrounded by fences; nor do they require that all entrances to facilities be monitored with mechanical or electromechanical devices. For this reason, the Agency believes that it would be inappropriate to require that these devices be connected to the security fence. Furthermore, even where fences and electromechanical devices are used to control access to the active portions of facilities, the Agency does not agree that these devices need to be active at all times, since a locked gate can provide comparable protection from unauthorized and unknowing entry when the electromechanical device is turned off. Therefore, the revised rules do not contain a requirement to connect the mechanical or electromechanical device to the security fence.

Issue #5: New vs. existing facilities.

a. Summary of Comments:

1. The proposed standards should not apply to, or should be phased in for, existing facilities because complying with these standards will require owners or operators of existing facilities to replace or retrofit existing, expensive security measures.

2. The standards should only apply to new facilities unless EPA demonstrates that an existing facility's security system is inadequate.

b. Analysis of and Response to Comments:

Compliance with the proposed standards may have required owners or operators to replace or retrofit security measures at some existing facilities (e.g., to install a guard or an electromechanical device at the entrance to the facility). However, the Agency believes that the revised standards provide sufficient flexibility, so that most existing facilities should not have to expend vast sums to ensure that their security measures are in compliance.

Section 3010 of RCRA provides that the hazardous waste regulations become effective six months after the date on which they are promulgated. Because the Agency does not believe that implementation of the security standards requires complex technical analysis, no special provisions have been added to the final rules concerning a phased-in compliance schedule for these standards at existing facilities.

The Agency disagrees with the comment suggesting that the security standards should only apply to new facilities unless EPA demonstrates that an existing facility's security system is inadequate. These regulations are designed to ensure that hazardous

waste facilities do not pose a threat to human health and the environment. Potential hazards are certainly not posed uniquely by new facilities. Because existing facilities may also pose a threat to human health and the environment, they too must bear the burden of demonstrating to the Agency that they meet the requirements of the security standards. Thus, the burden of proof is on the facility, be it new or existing, to demonstrate compliance with these regulations; the burden of proof is not on the Agency.

Issue #6: Special requirements for urban areas.

a. Summary of Comments:

The standards should require that facilities located within one mile of incorporated urban areas provide minimum security of a six foot chain link fence.

b. Analysis of and Response to Comments:

Although the Agency recognizes that unauthorized or unknowing entry onto a facility is more likely to occur in a populated area than in an unpopulated one, the Agency believes that the general performance standard which requires preventing unknowing entry and minimizing the potential for unauthorized entry onto the active portions of facilities, provides for adequate control of access onto facilities in urban as well as in rural areas.

Thus, for example, if a facility is located next to a schoolyard, the owner or operator is required to design a security system which will deter schoolchildren from entering the facility. This may include, for example, a presentation to incoming students at the beginning of each academic year, which warns the students of the presence of hazardous waste at the neighboring facility. Therefore, because the owner or operator is required to design a system capable of dealing with the particular threats to his facility, no additional security requirements need be specified for facilities located in urban areas.

D. Final Regulation Language

(a) The owner or operator must prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of his facility, unless he can demonstrate to the Regional Administrator that:

(1) Physical contact with the waste, structures, or equipment within the active portion of the facility will not injure unknowing or unauthorized persons or livestock which may enter the active portion of a facility; and

(2) Disturbance of the waste or equipment, by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility, will not cause a violation of the requirements of this Part.

[Comment: Part 122, Subpart B, of this Chapter requires that an owner or operator who wishes to make the demonstration referred to above must do so with Part B of the permit application.]

(b) Unless the owner or operator has made a successful demonstration under paragraphs (a)(1) and (a)(2) of this Section, a facility must have:

(1) A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the active portion of the facility; or

(2)(i) An artificial or natural barrier (e.g., a fence in good repair or a fence combined with a cliff), which completely surrounds the active portion of the facility; and

(ii) A means to control entry, at all times, through the gates or other entrances to the active portion of the facility (e.g., an attendant, television monitors, locked entrance, or controlled roadway access to the facility).

[Comment: The requirements of paragraph (b) of this Section are satisfied if the facility or plant within which the active portion is located itself has a surveillance system, or a barrier and a means to control entry, which complies with the requirements of paragraph (b)(1) or (b)(2) of this Section.]

During the interim status period, the variance demonstration to the Regional Administrator in paragraph (a) does not apply. Consequently, it has not been included in the final interim status standards, which are otherwise identical to the above standards. However, during the interim status period, owners and operators who determine that their facilities meet the conditions of the variance to the security standards, must be able to provide the facts and rationale supporting this determination when requested to do so by the Regional Administrator.

II. Subject: SIGNS

A. Summary of Proposed Standard

The proposed standard required that, at each entrance to the active portion of a facility, a sign must be posted which

1. says: "WARNING - Unauthorized Personnel Keep Out"

2. is printed in letters which are at least four inches high

3. is written in English and in any other predominant language of the area surrounding the facility.

A "note" to the standard allowed an owner or operator to use alternate wording, or different size lettering than that specified in the standard, if the resulting sign adequately warns unauthorized people to stay away. In addition, the "note" provided that the requirement for a sign could be relaxed where no danger would result from the unauthorized entry of people onto the active portion of a facility.

B. Rationale for the Proposed Standard

The purpose of the proposed standard was to prevent people from unknowingly entering a facility, by alerting them, with a sign, that the area which they are approaching is dangerous. The purpose of the requirement for bilingual signs (in areas where a language other than English is

spoken by a high percentage of the population), was to minimize the chance that people who do not understand English will unknowingly enter a facility, and possibly hurt themselves or cause an incident adversely affecting human health and the environment outside the facility, because they cannot read the warning on the sign to keep out.

The Agency specified the wording to be used on the sign, in order to give owners or operators an idea of the type of message that the Agency believes adequately informs the public that entry onto a facility is dangerous. The Agency also specified the height of the letters that should be used to print the sign, in order to give owners or operators some idea of how large letters ought to be for the words on the sign to be legible to people approaching a facility.

However, recognizing that many facilities already have signs which provide adequate warning to people to stay away, but which are not printed in four inch letters or do not contain the exact wording that is specified in the standard, the standard contained a "note" which allowed the use of alternate wording or lettering.

In addition, because unauthorized entry at some facilities would not result in injury either to people (or animals) who entered the facility, or to the environment, the "note" included a provision which relaxed the

requirement for a sign at these facilities. For example, the Agency believed that a warning sign at piles of certain slags covered by a tarpaulin would be not only unnecessary, but might be undesirable, because such a sign could foster unnecessary anxiety about the safety of the waste management operations that are conducted at the facility.

C. Summary and Response to Comments Received on this Subject

Issue #1: The requirement for bilingual signs.

a. Summary of Comments:

The requirement that the warning signs be written in both English and French in all States bordering Canada is unnecessarily stringent because French is the predominant language in only one Canadian province, Quebec. Therefore, the word "Quebec" should be substituted for the word "Canada" in the standard.

Furthermore, the word "States" should be replaced by the word "communities" or "counties" because, if interpreted literally and used for enforcement purposes, the parenthetical example used in the standard would require facilities in New York City (a city located in a state bordering Canada) to use both English and French on their warning signs.

b. Analysis of and Response to Comments:

The Agency agrees that the suggested word changes tailor the requirement for bilingual signs to those areas where they are truly needed. Therefore, the Agency has incorporated these changes into the final rules.

Issue #2: The content of the signs.

a. Summary of Comments:

A universal sign symbol should be developed which means "Warning - Unauthorized Personnel Keep Out", to be accompanied by the message printed in English. Multi-lingual signs tend to get cluttered up, and hence lose effectiveness.

b. Analysis of and Response to Comments:

The Agency has not developed such a symbol, and until one is developed, the intent of the standard sign will have to be accomplished by using bilingual signs. However, the Agency does not believe that the sign which is required in these rules will be wordy, and therefore ineffective, if it is written in two or more languages, because the message of the sign is short. For example, in a community bordering Mexico, the proposed warning sign would read as follows:

WARNING - Unauthorized Personnel Keep Out

CUIDADO - Prohibida La Entrada A Personas No Autorizadas

The Agency believes that because the "note" to the proposed standard provided a variance to the requirement for the statement: "Warning - Unauthorized Personnel Keep Out" on the sign, no comments were received on this aspect of the standard. The Agency believes that a variance to the wording requirement should be retained in the final rules for existing signs because it would be unnecessarily expensive to replace signs at facilities which do not contain the exact wording specified in the proposed standard, but nonetheless, provide adequate warning to unknowing people to stay away. However, to provide uniformity to the signs posted at hazardous waste facilities, the Agency believes that all new signs should contain the wording specified in the proposed standard. Therefore, in the final rules, the variance to the message on the sign only applies to existing signs.

In addition, the Agency has substituted the word "danger" for "warning" in the legend required on signs in the final rules. The reason for this change is that the word "danger", more so than "warning", clearly indicates that the potential for exposure to harm is associated with entering a facility.

Issue #3: The placement of the signs.

a. Summary of Comments:

Because the standard only requires signs to be posted at the gates to the active portion of the facility, the proposed standard could result in inadequate warning to unauthorized persons approaching a facility where fences will not be required. The standard should be reworded to require signs to be posted:

- in sufficient numbers to be seen from any approach to active portions of the facility, or
- at the corners of the facility and at intervals of 120 meters (400 feet) or less.

The Agency agrees that every reasonable attempt should be made to ensure that people are adequately warned that the area which they are approaching is dangerous. Posting warning signs is a relatively inexpensive and effective means to prevent people from unknowingly entering a potentially dangerous area. In light of the change to the proposed security standards which allows the use of fences less than six feet high, the Agency believes that signs should be posted along the periphery of the active portion to minimize the possibility that people will think that the secured area is not dangerous. Accordingly, the final rules require that a warning

sign be posted at each entrance to the active portion of the facility, and at other locations, in sufficient numbers to be seen from any approach to the active portion. The Agency believes that this requirement is preferable to the commenter's suggestion that signs be placed "at the corners of the facility and at intervals not to exceed 120 meters (400 feet)" because the requirement to post the signs in sufficient numbers to be seen from any approach to the active portion is more in keeping with the Agency's decision to write performance-oriented security standards.

Because the purpose of the sign is to prevent people from unknowingly entering the active portion of a facility, the sign serves as an auxiliary measure to the security systems previously described (i.e., a barrier or a surveillance system) to ensure compliance with the general performance standard. Therefore, the revised requirement for a sign is prefaced by the phrase "Unless the owner or operator has made a successful demonstration under paragraphs (a)(1) and (a)(2)". By linking the requirement for a sign to the general performance standard in paragraph (a), the revised rules need not include a separate exemption to the requirement for a sign (which is comparable to that contained in the "note"

to the proposed standard), because this is covered by the blanket exemption to the general performance standard.

Although the Agency received no criticism of the four-inch lettering requirement, the underlying theme of the majority of the comments was that the proposed security standards are too specific. Because the Agency believes that the four-inch lettering requirement is more inflexible than necessary, this requirement has been substituted, in the final rules, by a more performance-oriented provision which requires that the warning on the sign be legible from a distance of at least twenty-five feet. The selection of twenty-five feet as the distance from which the sign must be legible is based on the State of California's requirements for signs, as described in Section III of the Introduction to this document.

D. Final Regulation Language

(c) Unless the owner or operator has made a successful demonstration under paragraphs (a)(1) and (a)(2) of this Section, a sign with the legend, "Danger - Unauthorized Personnel Keep Out", must be posted at each entrance to the active portion of a facility, and at other locations, in sufficient numbers to be seen from any approach to this active portion. The legend must be written in English and in any other language predominant in the area surrounding the facility (e.g., facilities in counties bordering the Canadian province of Quebec must post signs in French; facilities in counties bordering Mexico must post signs in Spanish), and must be legible from a distance of at least 25 feet. Existing signs with a legend other than "Danger - Unauthorized Personnel Keep Out" may be used if the legend on the

sign indicates that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous.

III. Subject: GENERAL COMMENTS

Issue #1: Special Waste Facilities

a. Summary of Comments:

Facilities which manage "special waste" (e.g., mining waste, fly ash, FGD sludge) should be exempted from the security requirements, or less stringent/specific standards should be written for these facilities because:

- physical contact with the waste will not harm humans or livestock. In many cases, the waste is no more hazardous than the surrounding countryside.
- the waste is not a likely target for theft.
- most facilities are located in remote, sparsely populated areas.
- the cost of the fencing requirement would be exorbitant because it would require the fencing of thousands of acres of land.
- the fences would restrict wildlife migration.
- most farmers provide their own fencing, so livestock are not apt to roam onto a facility's active portion.
- controlling access with security personnel, television monitors, key cards, etc. is not practical at these locations.

b. Analysis of and Response to Comments:

As discussed on page 14 of this document, the Agency agrees that if a waste is sufficiently benign so that people do not need to be kept away from the site, then access to the site need not be controlled. For this reason, the Agency included a variance procedure to the final security standards which may apply to some of the wastes identified as "special wastes" in the proposed rules. In addition, it should be noted that the change in the Section 3001 rules -- whereby wastes will be considered toxic only when pollutant levels in the extract from the waste (using the Extraction Procedure) exceed the Interim Primary Drinking Water Standards by a factor of 100, instead of the proposed factor of 10 -- may decrease the number of proposed "special wastes" subject to the final Subtitle C rules.

The Agency believes that the commenter who stated that his waste should be exempt from the security standards because it is an unlikely target for theft, misunderstood the purpose of the proposed security requirements. The intent of the proposed standards was not only to prevent waste from being stolen but, also, to prevent people (or animals) from hurting themselves, or human health and the environment by entering an area containing hazardous waste.

The issue of the remoteness of a facility as a factor to be considered in determining the need to control access to facilities is discussed on page 16 of this document.

RCRA does not allow variances to the regulations based on economic considerations. Thus, the cost of the security requirements cannot be included in the factors to be considered in granting variances from the requirement to control access to facilities.

The Agency believes that the final security standards will apply to few facilities large enough to restrict wildlife migration if the active portion is surrounded by a fence. However, if a very large facility does not qualify for an exemption to the final security standards, the revised rules allow means other than a fence to control access to the site. Thus, the Agency believes that the final security standards provide sufficient flexibility so that wildlife migration will not be significantly restricted because facilities are required to comply with the standards for security.

The purpose of the proposed security standards was to protect humans, as well as livestock, from the potential dangers associated with uncontrolled access to hazardous waste facilities. Thus, although neighboring farmers may segregate their farms with fences, the potential still exists for people to hurt themselves, or

human health and the environment, if they enter a hazardous waste facility. Therefore, the Agency rejects the suggestion that the security system provided by a neighboring farmer provides the level of protection needed to comply with the RCRA mandate to protect human health and the environment.

As discussed on pages 21-22 of this document, the final rules allow means other than those specified in the proposed rules to control entry through the gates of the facility. The Agency believes that the revised rules are sufficiently flexible so that an owner or operator of a facility, which does not qualify for an exemption to the security standards, can devise a practical means to control entry through the gates of his facility.

Issue #2: Interaction with the Regional Administrator

a. Summary of Comments:

Because of unique situations that will arise, the Administrator of the Hazardous Waste Program should have the authority to waive portions of the security requirements which are impractical or whose cost is prohibitive. The commenter offered no example of what he considered to be a "unique situation".

b. Analysis of and Response to Comments:

The Agency believes that the final security standards are as flexible as they can be made and still protect human health and the environment. The Agency can think

of no "unique situation" (other than that provided for in the variance to paragraph (a)) which would warrant the Regional Administrator to waive portions of the security standards and, therefore, no such provision has been added to the final rules. As explained in the response to the comments addressing "special waste", RCRA does not allow the Agency to grant variances to standards based on economic considerations. Therefore, the fact that compliance with the security standards may be costly for some facilities does not justify their exemption from the requirement to control access to the facility.

Issue #3: Integration with the U.S. Coast Guard's waterfront facility regulations.

a. Summary of Comments:

The regulations should state that the security requirements of the forthcoming U.S. Coast Guard regulations for waterfront facilities are sufficient for a facility to which they apply, if the facility generates only minimal amounts of waste.

b. Analysis of and Response to Comments:

EPA's authority under Subtitle C of RCRA extends to all facilities which treat, store, or dispose of hazardous waste. Therefore, where the security requirements under Subtitle C are more stringent than those contained in the forthcoming U.S. Coast Guard's regulations, waterfront

facilities which treat, store, or dispose of hazardous waste will have to comply with both the security requirements promulgated by EPA, and by the U.S. Coast Guard.

However, because most of the specific requirements that were contained in the proposed security requirements (e.g., the requirement for a six foot fence) have been deleted from the revised rules, the Agency believes that its revised security standards for hazardous waste management facilities will be no more stringent than those specified by the U.S. Coast Guard for waterfront facilities.

Issue #4: Integration with EPA's SPCC Plan

a. Summary of Comments:

The security requirements should be consistent with the Spill Prevention, Control, and Countermeasure (SPCC) Plan adopted under Section 311 of the Clean Water Act.

b. Analysis of and Response to Comments:

The Agency believes that because the revised rules for security are performance-oriented rather than design-oriented, EPA's standards for security, promulgated under Subtitle C of RCRA, are consistent with its revised security requirements soon to be promulgated under Section 311 of the Clean Water Act. In stating that the two sets of security standards are consistent, the Agency does not mean that the standards are identical. Rather, the Agency is simply saying that facilities in

compliance with the revised security standards promulgated under Section 311 of the Clean Water Act will require no major alterations to their security systems to comply with the final security standards promulgated under Subtitle C of RCRA.

References

1. RCRA Legislative History in U.S. Code: Congressional and Administrative News. 94th Congress, 2nd Session, Volume 5, 1976. U.S. Congress. House Report on the Committee on Interstate and Foreign Commerce. House Document 94-1941, p. 37.

2. Ibid.

3. Ibid.

4. Report to Congress, Disposal of Hazardous Wastes, 1974, p. 44.

5. House Report No. 94-1491, Part I, p. 23.

6. Op. Cit. Disposal of Hazardous Wastes, p. 45.

7. Memorandum from Steve Caldwell, Environmental Protection Specialist, EPA, to Russel H. Wyer, Deputy Director, Oil and Special Materials Control Division, EPA, October 5, 1979.

8. Memorandum from Charles W. Howard, U.S EPA, Region III, to the EPA file, November 2, 1979, Subject: Warring Drum Recovery Facility, Washington, D.C.

9. U.S. Environmental Protection Agency. Status of State Programs for Hazardous and Solid Waste Management: 1978. Office of Water and Waste Management, SW-796, September, 1979.

Appendix I

State Regulations which were reviewed:

Arkansas Solid Waste Disposal Code (June 1973)

California: Title 22 (Register 77, No. 42 - 10-15-77) Division 4, Chapter 2. Minimum Standards for Management of Hazardous and Extremely Hazardous Wastes, Section 60249.

Connecticut Department of Environmental Protection Solid Waste Management Regulations; Section 19-524-1 through 19-524-12; Adopted January 10, 1975; Amended January 4, 1978.

Hawaii Environmental Laws and Regulations, Volume II, Chapter 46 - Solid Waste Management Control; Effective July 30, 1974.

Illinois Solid Waste Rules and Regulations (July 27, 1973), Rule 314.

Iowa Departmental Rules 1973, Environmental Quality - Solid Waste, Title IV, Chapter 27 Permits, Section 28.2(2)(e).

Maryland Hazardous Waste Regulations (July 28, 1978).

Minnesota Hazardous Waste Management Rules (June 11, 1979), 6 MCAR §4.9004 HW 4, Location, operation, and closure of a hazardous waste facility.

Montana Solid Waste Disposal Laws and Rules (1969).

New York State, Part 360, Solid Waste Management Facilities (May 17, 1977), Section 360.8 Security landburial facility.

Oklahoma Solid Waste Management Rules and Regulations (July 1, 1973). Section 5.4.3. Disposal of Hazardous Waste - Security.

Oregon Solid Waste Control (1977), Chapter 459.545.

Rhode Island Hazardous Waste Disposal Facility Rules and Regulations (December 21, 1978) Rule 11. ACCESS.

Tennessee Regulations Governing Solid Waste Processing and Disposal (1971).

Washington Hazardous Waste Regulations (July 12, 1978) WAC 173-302-290 Security Requirements.

Appendix II

§264.14 Security

(a) The owner or operator must prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of his facility, unless he can demonstrate to the Regional Administrator that:

(1) Physical contact with the waste, structures, or equipment within the active portion of the facility will not injure unknowing or unauthorized persons or livestock which may enter the active portion of a facility; and

(2) Disturbance of the waste or equipment, by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility, will not cause a violation of the requirements of this Part.

[Comment: Part 122, Subpart B, of this Chapter requires that an owner or operator who wishes to make the demonstration referred to above must do so with Part B of the permit application.]

(b) Unless the owner or operator has made a successful demonstration under paragraphs (a)(1) and (a)(2) of this Section, a facility must have:

(1) A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the active portion of the facility; or

(2)(i) An artificial or natural barrier (e.g., a fence in good repair or a fence combined with a cliff), which completely surrounds the active portion of the facility; and

(ii) A means to control entry, at all times, through the gates or other entrances to the active portion of the facility (e.g., an attendant, television monitors, locked entrance, or controlled roadway access to the facility).

[Comment: The requirements of paragraph (b) of this Section are satisfied if the facility or plant within which the active portion is located itself has a surveillance system, or a barrier and a means to control entry, which complies with the requirements of paragraph (b)(1) or (b)(2) of this Section.]

(c) Unless the owner or operator has made a successful demonstration under paragraphs (a)(1) and (a)(2) of this Section, a sign with the legend, "Danger - Unauthorized Personnel Keep Out", must be posted at each entrance to the active portion of a facility, and at other locations, in sufficient numbers to be seen from any approach to this active portion. The legend must be written in English and in any other language predominant in the area surrounding the facility (e.g., facilities in counties bordering the Canadian province of Quebec must post signs in French; facilities in counties bordering Mexico must post signs in Spanish), and must be legible from a distance of at least 25 feet. Existing signs with a legend other than "Danger - Unauthorized Personnel Keep Out" may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous.

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