

US EPA ARCHIVE DOCUMENT

DCN FLEP-00025

COMMENTS Environmental Energy Group/NAEP

SUBJECT ALTERN

COMMENT While the principle focus here (waste fluorescent lamps) is classified as a mercury-bearing discard, other hazardous wastes (hazardous substances under CERCLA) are known or suspected to be contained within the electric lamp waste universe. Some consideration should be given for evaluating, rating, or weighing multiple chemical hazards within products or product groups being reviewed for possible determination as Universal Wastes.

RESPONSE

The Agency agrees with the commenter that spent lamps may exhibit the characteristic of toxicity by exceeding the regulatory levels of constituents other than mercury. Therefore, the spent lamps that are the object of today's rule are all hazardous waste lamps and not just mercury-containing lamps. Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273.

DCN FLEP-00033

COMMENTS Brown and Caldwell

SUBJECT ALTERN

COMMENT In its proposal, the EPA does not discuss the method currently being utilized by Client to dispose of these bulbs - i.e., a fluorescent lamp disposer with mercury vapor control, commonly referred to as a "crusher." Client's device is manufactured by Dextrite, Inc., of Rochester, New York. The EPA has expressed concerns regarding mercury emitted into the air, depositing on surface water and thereby threatening human health and the environment. Client shares these concerns and believes that utilizing the crusher is the most adequate and "environmentally friendly" method of managing its mercury waste from light tubes. The following is the procedure by which the tubes are crushed and the mercury disposed of. Light tubes are inserted into the crusher one at a time. When the tube is crushed, the mercury that is emitted is absorbed by a carbon filter in the fully-enclosed unit. Enclosed as Exhibit A are the test data specifications for the filters. [See hard copy of Comment FLEP-00033 for attachment.] Additionally, Client used the TCLP for the crushed glass resulting from this method and found that the crushed glass contained less than .2 milligrams per liter mercury. When the filter reaches its capacity, it is easily removed from its housing in the crusher, placed in a plastic

wrap bag and then into a drum for disposal as hazardous waste. Client contends that this method not only addresses EPA's concerns regarding air emissions from breakage (in a significantly more efficient manner than transporting whole tubes), but it also reduces the volume of waste in landfills because more crushed glass than whole light tubes fit into 55-gallon drums. Additionally, the majority of the mercury present is handled as hazardous waste and less mercury actually goes to the landfill. EPA's data showed as much as 6.6 percent of mercury could be released in the area from a lamp broken during collection, storage and transportation of lamps. Crushing tubes in this manner prevents mercury from volatilizing to the air and being transported through the environment.

RESPONSE

The current universal waste rule prohibits universal waste handlers from treating universal wastes (40 CFR ' 273.11 and 273.31). The final rule for hazardous waste lamps retains the treatment prohibition for universal waste handlers and applies the prohibition to handlers of hazardous waste lamps. The definition of treatment under RCRA includes Any method, technique, or process...designed to change the physical, chemical, or biological character or composition of any hazardous waste, so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.@ The crushing of hazardous waste lamps clearly falls within the definition of treatment under RCRA (40 CFR 260.10).

Some commenters to the proposed hazardous waste lamps rule requested that the Agency allow generators of such lamps to crush them on-site before sending them off-site for treatment or disposal. However, as explained in the preamble to the final universal waste rule (60 FR 25519), the Agency believes that it is not appropriate to allow universal waste handlers to treat universal wastes because the handlers are not required to comply with the Subtitle C hazardous waste management standards for generators (40 CFR Part 262). These hazardous waste generators must obtain EPA identification numbers, are subject to the 90-day (or 180-day) accumulation limit, and must comply with the technical standards of 40 CFR Part 265 for storage and accumulation units. Because these standards are relatively stringent, EPA's policy is that generators may treat hazardous wastes on-site, provided that they comply with all applicable requirements of 40 CFR Part 262 for storage and accumulation of hazardous wastes.

Universal waste handlers, on the other hand, are allowed a much longer accumulation time limit of one year and need not comply with specific technical standards for accumulation and storage units. Instead, they are subject only to the general performance standard of managing universal wastes in a manner that prevents releases@to the environment. In addition, information available to the Agency on drum top crushing systems for lamps indicates that these units may allow

significant air emissions of mercury, particularly when the units are not in operation, and emissions often may exceed the OSHA limit of 0.05 mg/m³.

For these reasons, the Agency is not allowing crushing of hazardous waste lamps under federal regulations. However, generators located in a state with an authorized universal waste program may be allowed to crush, universal waste lamps, if within the state authorization process the Agency determines that a state's program allowing generators to treat lamps under controlled or restricted conditions is equivalent (per RCRA ' 3006) to the federal prohibition. EPA believes that this approach both ensures protection of human health and the environment while allowing the development of state regulatory programs that include specific standards for the safe crushing of hazardous waste lamps. In addition, a generator could choose to continue to manage his hazardous waste lamps under full Subtitle C regulation if he so desired.

DCN FLEP-00034

COMMENTS Leaseway Transportation Corp.

SUBJECT ALTERN

COMMENT If EPA does elect to proceed with these regulations, Leaseway recommends the final rules should: 1. Require the manufactures of the lights that contain mercury to notify the public which of their products would be classified as hazardous waste. This would eliminate unnecessary testing and dramatically reduce compliance costs for nearly all businesses. (Perhaps the results of their tests could be reported in the Federal Register.) 2. Require only that the generator arrange for the lights to be ultimately disposed at a facility acceptable to the EPA. The same care could be given to old bulbs as to new ones. There is a very low incident of breakage of new bulbs when they are in storage or use at our facilities. 3. Eliminate the training and recordkeeping requirements.

RESPONSE

The Agency appreciates the commenter's suggestions concerning the management of hazardous waste lamps. EPA cannot address manufacturer product notification under the statutory authority of RCRA, therefore the commenter's request for manufacturer notification is beyond the scope of this rulemaking.

The final rule requires universal waste handlers to manage universal waste lamps in a way that prevents releases of the lamps or the components of the lamps to the environment. Spent lamps must be packed to minimize breakage and packaging materials must be designed to contain potential releases due to breakage during transport. Universal waste lamps must be stored in containers or packages that remain closed, are structurally sound, adequate to prevent breakage, compatible with contents of lamps, and lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions. Examples of acceptable packaging could

include placing the lamps evenly spaced in double or triple-ply cardboard containers with closed lids. Handlers also must contain any universal waste lamps that show evidence of breakage, leakage, or damage that could cause the release of mercury or other hazardous waste to the environment. An example of such containment could include placing unintentionally broken lamps in closed wax fiberboard drums.

The Agency points out that in addition to these container and packaging provisions, universal waste handlers, including handlers of universal waste lamps, must comply with the provisions of 40 CFR ' ' 273.17 and 273.37 for responding to releases of universal waste. Handlers of universal waste must immediately contain all releases of universal waste and any residues from universal wastes. In addition, universal waste handlers must determine whether any material resulting from a release is a hazardous waste and, if so, must manage the hazardous waste in compliance with all applicable provisions of 40 CFR Parts 260 through 268, as well as all other applicable statutory provisions. Hazardous waste lamps must ultimately be disposed of at a RCRA hazardous waste facility or a recycling facility.

The universal waste rule does not require formal training for facility employees, but does require that employees at large quantity handler facilities are thoroughly familiar with proper waste handling and emergency procedures related to their responsibilities, and employees at small quantity handler facilities be informed of the proper handling and emergency procedures appropriate to the types of universal waste being handled. The Agency believes that a basic employee training requirement is necessary to ensure that employees are specifically familiar with waste handling procedures. Training that is required under other programs (e.g., OSHA, RCRA Subtitle C) will most likely meet the Part 273 training requirements, and records for training provided to employees are not required to be kept.

The universal waste rule also includes a basic record keeping requirement to track waste shipments arriving at and leaving from sites owned by handlers of large quantities of universal waste (i.e., one who accumulated greater than 5,000 kg total universal waste at one time). The required records may take the form of a log, invoice, manifest, bill of lading, or other shipping document and are to be maintained for three years. The Agency believes that standard business records that would normally be kept by any business will fulfill this requirement.

DCN FLEP-00039

COMMENTS Spectrum Technologists

SUBJECT ALTERN

COMMENT As shown by the enclosed newspaper article, mercury waste becomes available sometimes in very large quantities that can be efficiently handled. In this case Kansas City Power and Light Co. followed standard RCRA procedure in a very responsible way. A landfill exemption would eliminate the chance to recover large amounts of mercury for (hopefully, see below) permanent

stabilization. Recycling mercury. Mercury is one of the few cases where recycling may not be the best course of action in the long run. Over the past five years mercury has gone from a valuable commodity to a hazardous waste liability. The only remaining market of any size is gold mining in Brazil where mercury is being emitted en masse to the atmosphere. There's a huge supply overhang comprised of the U.S. strategic stock pile and mercury cell chlorine manufacturing plants that will be coming off line in the next decade or so. EPA needs to develop a system for the collection of mercury bearing materials and a process to stabilize these materials as compounds of sulfur or selenium. The enclosed abstract from the recent international mercury conference shows that the Swedish EPA has come to this same conclusion.

RESPONSE

The Agency understands the points made by the commenter and considered the information mentioned by the commenter in developing the final rulemaking. EPA believes that the management requirements finalized today for hazardous waste lamps will provide adequate protection of human health and the environment. Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards). The universal waste rule provides a format for controlling the management of spent lamps during storage and transport. In addition, the universal waste rule is expected to result in cost reductions over Subtitle C management requirements for generators, collectors, and transporters, yet it ensures that lamps are managed in an environmentally protective manner and are properly recycled or treated at Subtitle C facilities prior to disposal.

As a result of including hazardous waste lamps within the scope of the universal waste rule, fewer hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and decreasing the potential for lamps to be crushed and/or broken in uncontrolled environments during storage and transport (e.g., dumpsters and garbage trucks). Studies also have shown that participation in energy-efficient lighting programs reduces potential mercury (as well as other pollutant) air emissions from the burning of fossil fuels for electricity generation. The amount of air emissions associated with the generation of electricity will continue to decrease with continual declines in the demand for electricity due to participation in energy-efficiency programs. Today's final rule allows more flexibility in the management of hazardous waste lamps and may encourage greater participation in energy-efficient lighting programs.

EPA studies have determined that the majority of hazardous waste lamps fail the TCLP for mercury and sometimes for lead. Spent lamps that exhibit a hazardous waste characteristic are subject to today's rulemaking. Other hazardous wastes that contain mercury besides hazardous

waste lamps and thermostats are subject to full Subtitle C regulation, including the land disposal restrictions (LDR) which require proper treatment of hazardous waste prior to disposal (with the exception of thermostats which also are included within the scope of the universal waste rule). The Agency is currently examining the treatment standard for mercury under the LDR program and may decide to adjust the standard in the context of another rulemaking.

DCN FLEP-00045

COMMENTS Richard M. Jakucs

SUBJECT ALTERN

COMMENT It is my assertion that these bulbs should be disposed at licensed, commercial hazardous waste landfills. They are able to monitor and they are equipped to handle this type of waste. Waste minimization could be carried out by shredding bulbs in commercial shredders which are available at minimal costs and also maintain positive control of air emissions. This could meet the requirements of protecting the environment, insuring proper disposal and monitoring and not pose an economic hardship to the generator.

RESPONSE

Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards). Universal waste destination facilities (i.e., facilities that treat, dispose, or recycle universal waste) are subject to all applicable requirements for hazardous waste treatment, storage, and disposal facilities and must receive a RCRA permit for such activities. Hazardous waste recycling facilities that do not store hazardous wastes prior to recycling may be exempt from permitting under federal regulations (40 CFR 261.6(c)(2)).

Regarding the shredding of spent lamps, the current universal waste rule prohibits universal waste handlers from treating universal wastes (40 CFR ' 273.11 and 273.31). The final rule for hazardous waste lamps retains the treatment prohibition for universal waste handlers and applies the prohibition to handlers of hazardous waste lamps. The definition of treatment under RCRA includes Any method, technique, or process...designed to change the physical, chemical, or biological character or composition of any hazardous waste, so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.@ The shredding or crushing of hazardous waste lamps clearly falls within the definition of treatment under RCRA (40 CFR 260.10).

Some commenters to the proposed hazardous waste lamps rule requested that the Agency allow generators of such lamps to crush them on-site before sending them off-site for treatment or disposal. However, as explained in the preamble to the final universal waste rule (60 FR 25519),

the Agency believes that it is not appropriate to allow universal waste handlers to treat universal wastes because the handlers are not required to comply with the Subtitle C hazardous waste management standards for generators (40 CFR Part 262). These hazardous waste generators must obtain EPA identification numbers, are subject to the 90-day (or 180-day) accumulation limit, and must comply with the technical standards of 40 CFR Part 265 for storage and accumulation units. Because these standards are relatively stringent, EPA's policy is that generators may treat hazardous wastes on-site, provided that they comply with all applicable requirements of 40 CFR Part 262 for storage and accumulation of hazardous wastes.

Universal waste handlers, on the other hand, are allowed a much longer accumulation time limit of one year and need not comply with specific technical standards for accumulation and storage units. Instead, they are subject only to the general performance standard of managing universal wastes in a manner that prevents releases to the environment. In addition, information available to the Agency on drum top crushing systems for lamps indicates that these units may allow significant air emissions of mercury, particularly when the units are not in operation, and emissions often may exceed the OSHA limit of 0.05 mg/m³.

For these reasons, the Agency is not allowing crushing of hazardous waste lamps under federal regulations. However, generators located in a state with an authorized universal waste program may be allowed to crush, universal waste lamps, if within the state authorization process the Agency determines that a state's program allowing generators to treat lamps under controlled or restricted conditions is equivalent (per RCRA ' 3006) to the federal prohibition. EPA believes that this approach both ensures protection of human health and the environment while allowing the development of state regulatory programs that include specific standards for the safe crushing of hazardous waste lamps.

DCN FLEP-00048

COMMENTS Sullivan & Ward, P.C.

SUBJECT ALTERN

COMMENT We have a suggestion which would encourage recycling of mercury-containing lamps and be a sensible alternative for small business. It would make sense if businesses could take limited numbers of mercury-containing lamps to their permitted municipal landfills, and the landfills could store them until a sufficient number had been collected to make it cost-effective for pickup or transport to a recycler. Please consider this when you are deciding how to regulate these lamps.

RESPONSE

Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards). The Agency notes that the final rule does not prohibit the consolidation of hazardous waste lamps at facilities

prior to recycling or treatment at a Subtitle C facility. Universal waste handlers may accumulate waste for one year without obtaining a storage permit for their waste. The Agency believes that today's final rule will greatly facilitate the environmentally-sound collection and increase the proper recycling or treatment of hazardous waste lamps.

DCN FLEP-00051

COMMENTER Scientific Consulting Laboratories, Inc.

SUBJECT ALTERN

COMMENT We believe it is absolutely essential that mercury-containing lamps remain intact from the time of removal until they are either landfilled or recycled. Breakage of lamps outside of containment must be avoided to protect the health of the unsuspecting public.

Until the true risk of exposure to mercury vapors at landfills is thoroughly studied, we believe mercury-containing lamps should not be allowed to be disposed of at permitted municipal landfill unless strict mercury vapor containment systems are in place to prevent the release of mercury into the atmosphere. We also strongly recommend that all mercury-containing lamps from large retrofit and remodeling jobs be kept intact and carefully packaged to prevent breakage until receipt into a crush and separate or disposal system that is designed to prevent the release of mercury vapors at either a permitted municipal or hazardous waste landfill or a permitted lamp recycling facility. If crushing at the generators location is allowed, then a system that captures the mercury vapors should be required to minimize potential exposures. If the EPA eventually adopts a policy that permits the unrestricted disposal of mercury-containing lamps at permitted municipal landfills without adequate personal health and safety provisions, then the entire effort to regulate the universal waste stream will be undetermined.

RESPONSE

EPA agrees with the commenter that hazardous waste lamps should be kept out of the municipal solid waste stream to the extent possible and therefore, today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards).

Regarding lamp packaging, the final rule requires universal waste handlers to manage universal waste lamps in a way that prevents releases of the lamps or the components of the lamps to the environment. Spent lamps must be packed to minimize breakage and packaging materials must

be designed to contain potential releases due to breakage during transport. Universal waste lamps must be stored in containers or packages that remain closed, are structurally sound, adequate to prevent breakage, compatible with contents of lamps, and lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions. Examples of acceptable packaging could include placing the lamps evenly spaced in double or triple-ply cardboard containers with closed lids. Handlers also must contain any universal waste lamps that show evidence of breakage, leakage, or damage that could cause the release of mercury or other hazardous waste to the environment. An example of such containment could include placing unintentionally broken lamps in closed wax fiberboard drums.

The Agency points out that, in addition to these container and packaging provisions, universal waste handlers, including handlers of universal waste lamps, must comply with the provisions of 40 CFR ' ' 273.17 and 273.37 for responding to releases of universal waste. Handlers of universal waste must immediately contain all releases of universal waste and any residues from universal wastes. In addition, universal waste handlers must determine whether any material resulting from a release is a hazardous waste and, if so, must manage the hazardous waste in compliance with all applicable provisions of 40 CFR Parts 260 through 268, as well as all other applicable statutory provisions.

The Agency agrees with the commenter's recommendation that hazardous waste lamps should not be allowed to be disposed of at permitted non-hazardous municipal landfills. Today's final rule specifies that universal waste destination facilities (i.e., facilities that treat, dispose, or recycle universal waste) are subject to all applicable requirements for hazardous waste treatment, storage, and disposal facilities and must receive a RCRA permit for such activities. Hazardous waste recycling facilities that do not store hazardous wastes prior to recycling may be exempt from permitting under federal regulations (40 CFR 261.6(c)(2)).

Regarding the crushing of hazardous waste lamps, the current universal waste rule prohibits universal waste handlers from treating universal wastes (40 CFR ' 273.11 and 273.31). The final rule for hazardous waste lamps retains the treatment prohibition for universal waste handlers and applies the prohibition to handlers of hazardous waste lamps. The definition of treatment under RCRA includes Any method, technique, or process...designed to change the physical, chemical, or biological character or composition of any hazardous waste, so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.@ The crushing of hazardous waste lamps clearly falls within the definition of treatment under RCRA (40 CFR 260.10).

The Agency is not allowing crushing of hazardous waste lamps under federal regulations. However, generators located in a state with an authorized universal waste program may be allowed to crush, universal waste lamps, if within the state authorization process the Agency determines that a state's program allowing generators to treat lamps under controlled or

restricted conditions is equivalent (per RCRA ' 3006) to the federal prohibition. EPA believes that this approach both ensures protection of human health and the environment while allowing for the development of state regulatory programs that include specific standards for the safe crushing of hazardous waste lamps.

DCN FLEP-00063

COMMENTS American Waste Management, Inc.

SUBJECT ALTERN

COMMENT However, AWM opposes the land disposal of mercury lamp wastes.

Land disposal only delays the inevitable release of toxic mercury into the ecosystem. AWM suggests mercury lamp wastes should be recycled by regulatory mandate. In this way, toxic mercury emissions can be rigorously controlled at permitted treatment, storage, and recycling facilities, while valuable glass, mercury, and aluminum can be recovered, thereby preserving natural resources.

RESPONSE

Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards).

The Agency published a Notice of Data Availability on July 11, 1997 (62 FR 37183). This notice presented data collected by the Agency and an assessment of potential mercury emissions from the management of hazardous waste lamps under several regulatory approaches. The Agency does not have extensive data characterizing the behavior of mercury released from spent lamps in a landfill environment over long periods of time. Although available data may support the conclusion that mercury may stay in a stable, non-mobile state over the shorter term and may not migrate from a landfill environment very quickly, studies also show that the greatest threat of mercury releases from the management of lamps is during storage and transport. Crushing and breaking of lamps allows mercury to be emitted into the air. The universal waste rule provides a format for controlling the management of spent lamps during storage and transport, while at the same time providing a more streamlined and less stringent set of standards than the Subtitle C management standards. Ultimately, spent lamps must be either recycled or treated and disposed at a RCRA hazardous waste facility.

Today's final rule will greatly facilitate the environmentally-sound collection and the proper recycling or treatment of hazardous waste lamps. Based on the belief that less complex and less costly regulations will increase the collection of universal wastes, the Agency did not limit the universal waste system to the recycling of waste. Generators have several options with regard to waste management, but the ability to access large quantities of universal waste from central collection centers may encourage the development of safe and effective methods to recycle universal waste.

DCN FLEP-00072

COMMENTER Georgia Hall

SUBJECT ALTERN

COMMENT I have listened and read and I have come to the following conclusions. Just because you put it in print that mercury and lead is not hazardous waste does not make it so. I believe the same restrictions that are on lead acid batteries should be on lamps containing mercury and lead. Listed below are just a few of my concerns.

RESPONSE

Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards) for handlers; however, ultimately, the spent lamps must either be recycled or treated and disposed at a RCRA hazardous waste facility.

The Agency has not made the determination that mercury lamps are not hazardous waste, as the commenter claims. EPA studies have determined that the majority of hazardous waste lamps fail the TCLP for mercury and sometimes for lead. Spent lamps that exhibit any of the hazardous waste characteristics are subject to today's rulemaking. The Agency agrees with the commenter regarding the need to regulate hazardous waste lamps in a similar way to the existing lead acid batteries regulations. As a result, today's final rule adds hazardous waste lamps to the federal list of universal waste, which also includes batteries.

DCN FLEP-00082

COMMENTER Square D Company

SUBJECT ALTERN

COMMENT Crushing. We are particularly concerned that the Universal Waste proposal prohibits lamp crushing, and the exclusion is silent on it. A practical approach to lamp disposal often involves crushing the lamps on the generator's site and transporting the crushed material to either Subtitle D disposal or to a recycler. Crushing reduces the volume of fluorescent lamps by greater than 90 percent and thus reduces storage and transportation. Crushing can be conducted safely with the proper controls.

RESPONSE

The current universal waste rule prohibits universal waste handlers from treating universal wastes (40 CFR ' 273.11 and 273.31). The final rule for hazardous waste lamps retains the treatment prohibition for universal waste handlers and applies the prohibition to handlers of hazardous waste lamps. The definition of treatment under RCRA includes Any method, technique, or process...designed to change the physical, chemical, or biological character or composition of any hazardous waste, so as to neutralize such waste, or so as to recover energy or material resources

from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.® The crushing of hazardous waste lamps clearly falls within the definition of treatment under RCRA (40 CFR 260.10).

Some commenters to the proposed hazardous waste lamps rule requested that the Agency allow generators of such lamps to crush them on-site before sending them off-site for treatment or disposal. However, as explained in the preamble to the final universal waste rule (60 **FR** 25519), the Agency believes that it is not appropriate to allow universal waste handlers to treat universal wastes because the handlers are not required to comply with the Subtitle C hazardous waste management standards for generators (40 CFR Part 262). These hazardous waste generators must obtain EPA identification numbers, are subject to the 90-day (or 180-day) accumulation limit, and must comply with the technical standards of 40 CFR Part 265 for storage and accumulation units. Because these standards are relatively stringent, EPA's policy is that generators may treat hazardous wastes on-site, provided that they comply with all applicable requirements of 40 CFR Part 262 for storage and accumulation of hazardous wastes.

Universal waste handlers, on the other hand, are allowed a much longer accumulation time limit of one year and need not comply with specific technical standards for accumulation and storage units. Instead, they are subject only to the general performance standard of managing universal wastes in a manner that prevents releases® to the environment. In addition, information available to the Agency on drum top crushing systems for lamps indicates that these units may allow significant air emissions of mercury, particularly when the units are not in operation, and emissions often may exceed the OSHA limit of 0.05 mg/m³.

For these reasons, the Agency is not allowing crushing of hazardous waste lamps under federal regulations. However, generators located in a state with an authorized universal waste program may be allowed to crush, universal waste lamps, if within the state authorization process the Agency determines that a state's program allowing generators to treat lamps under controlled or restricted conditions is equivalent (per RCRA ' 3006) to the federal prohibition. EPA believes that this approach both ensures protection of human health and the environment while allowing for the development of state regulatory programs that include specific standards for the safe crushing of hazardous waste lamps.

DCN FLEP-00084

COMMENTER Jeff Carmichael

SUBJECT ALTERN

COMMENT To keep the mercury-containing lamp reclamation industry viable, the following alternatives to the Conditional Exclusion option are suggested: (1) eliminate the Subtitle D disposal option; (2) restrict the Subtitle D disposal option to only generators of small volumes of spent lamps (e.g., less than 4,200 lamps per

year), [and] require generators who produce large volumes of spent lamps per year (e.g, greater than 4,200 lamps per year) to recycle; and (3) require the recycling of large volumes of lamps, use the rule's sun set provision to continue the study of mercury-containing lamp management issues, and then in three to five years require 100 percent recycling of lamps, if the study indicates 100 percent recycling is feasibility.

RESPONSE

EPA has decided not to promulgate a conditional exclusion for hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards).

Regarding the disposal of hazardous waste lamps, today's rule specifies that universal waste destination facilities (i.e., facilities that treat, dispose, or recycle universal waste) are subject to all applicable requirements for hazardous waste treatment, storage, and disposal facilities and must receive a RCRA permit for such activities. Hazardous waste recycling facilities that do not store hazardous wastes prior to recycling may be exempt from permitting under federal regulations (40 CFR 261.6(c)(2)). In agreement with the commenter's suggestion, today's rule does not affect the regulatory status of generators of small volumes of hazardous waste, including households and conditionally exempt small quantity generators (CESQGs are facilities that generate less than 100 kg of hazardous waste in any given month). Household and CESQG hazardous waste lamps may continue to be disposed of at Subtitle D disposal facilities. However, the streamlined regulations will provide an incentive for these categories of generators to collect the unregulated portions of the wastestream and manage them using the same systems developed for the regulated portion, thereby removing some hazardous waste lamps from the municipal wastestream and minimizing the amount of hazardous waste going to municipal landfills and combustors.

The Agency is not including a sunset provision with today's final rule. The Agency believes that the data and information provided to the Agency and the Agency's own studies and analyses that were conducted during the period of time since the hazardous waste lamps rulemaking was proposed provide adequate evidence of the behavior of mercury in the environment and the potential releases of mercury to the environment to support today's final rule. The Agency notes, however, that should sufficient and compelling information related to the behavior of mercury or other hazardous constituents of lamps become available in the future, the Agency can always re-evaluate the standards promulgated in today's final rule.

DCN FLEP-00086

COMMENTS Northeast Utilities Service Co.

SUBJECT ALTERN

COMMENT Finally, NUSCO suggests that the proposal be broadened to allow recycling, treatment or disposal of mixed waste lighting waste

in facilities regulated by the NRC.

VI. Lighting Wastes Managed in NRC Landfills/Recycling Facilities
Should Be Excluded
Lights used in nuclear power plants sometimes become radioactive, and accordingly, when disposed of, may be mixed waste. Such mixed waste cannot be disposed of in a MSWLF or recycled in standard recycling facilities. Accordingly, NUSCO suggests that lighting wastes which are recycled, treated or disposed of in facilities licensed by the NRC or an NRC licensed state also be excluded from Subtitle C regulation.

RESPONSE

EPA is not promulgating a conditional exclusion for hazardous waste lamps. Rather, the Agency has determined that hazardous waste lamps meet the criteria established for designating materials as universal waste in 40 CFR ' 273.81, and therefore today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards). The hazardous waste components in radioactive hazardous waste lamps are subject to today's rulemaking.

The hazardous waste lamps that are also radioactive must be managed in compliance with the applicable standards under Subtitle C, as well as the applicable requirements under the Atomic Energy Act.

DCN FLEP-00090

COMMENTS The Boeing Company

SUBJECT ALTERN

COMMENT Management controls to minimize lamp breakage. We do not support the proposed requirement that generators must at all times manage hazardous waste lamps in a way that minimizes lamp breakage. In order to promote the efficiency of waste management activities, some generators invest in devices such as a fluorescent lamp tube disposer. This device is designed for efficient use of drum space during accumulation and transportation. The entire process is conducted in a controlled environment. The lamp is crushed while being dropped into the drum. The unit is equipped with an electric blower and filter bag to trap powder and dust, including mercury. The crushing process is carried out in a closed unit without exposing workers to any hazards or causing any release to the environment. Waste collected in the filter bag and the drum is then managed according to its hazard. We suggest that EPA find out more about these devices from their manufacturers. The agency may find the use of these devices to be consistent with its policies and

objectives to protect public health and the environment.

Therefore the proposed requirement that generators need to minimize lamp breakage at all times should be removed.

RESPONSE

The current universal waste rule prohibits universal waste handlers from treating universal wastes (40 CFR ' 273.11 and 273.31). The final rule for hazardous waste lamps retains the treatment prohibition for universal waste handlers and applies the prohibition to handlers of hazardous waste lamps. The definition of treatment under RCRA includes Any method, technique, or process...designed to change the physical, chemical, or biological character or composition of any hazardous waste, so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.® The crushing of hazardous waste lamps clearly falls within the definition of treatment under RCRA (40 CFR 260.10).

Some commenters to the proposed hazardous waste lamps rule requested that the Agency allow generators of such lamps to crush them on-site before sending them off-site for treatment or disposal. However, as explained in the preamble to the final universal waste rule (60 FR 25519), the Agency believes that it is not appropriate to allow universal waste handlers to treat universal wastes because the handlers are not required to comply with the Subtitle C hazardous waste management standards for generators (40 CFR Part 262). These hazardous waste generators must obtain EPA identification numbers, are subject to the 90-day (or 180-day) accumulation limit, and must comply with the technical standards of 40 CFR Part 265 for storage and accumulation units. Because these standards are relatively stringent, EPA's policy is that generators may treat hazardous wastes on-site, provided that they comply with all applicable requirements of 40 CFR Part 262 for storage and accumulation of hazardous wastes.

Universal waste handlers, on the other hand, are allowed a much longer accumulation time limit of one year and need not comply with specific technical standards for accumulation and storage units. Instead, they are subject only to the general performance standard of managing universal wastes in a manner that prevents releases® to the environment. In addition, information available to the Agency on drum top crushing systems for lamps indicates that these units may allow significant air emissions of mercury, particularly when the units are not in operation, and emissions often may exceed the OSHA limit of 0.05 mg/m³.

For these reasons, the Agency is not allowing crushing of hazardous waste lamps under federal regulations. However, generators located in a state with an authorized universal waste program may be allowed to crush, universal waste lamps, if within the state authorization process the Agency determines that a state's program allowing generators to treat lamps under controlled or restricted conditions is equivalent (per RCRA ' 3006) to the federal prohibition. EPA believes that this approach both ensures protection of human health and the environment while allowing the development of state regulatory programs that include specific standards for the safe crushing

of hazardous waste lamps.

DCN SCSP-00114

COMMENTS National Electric Manufacturers Assn.

SUBJECT ALTERN

COMMENT NEMA believes that these facilities can provide safe management of lamps during the recycling/reclamation process if properly permitted. However, there are still unanswered questions on the final disposition of mercury residues in and the management of the recovered mercury which needs further refining before it can be reused. NEMA will continue to share its information with EPA.

RESPONSE

The Agency acknowledges the commenter's concerns about reclamation activities. Under the universal waste rule, destination facilities (i.e., recycling, treatment, or disposal facilities) are subject to all hazardous waste management requirements applicable to permitted or interim status hazardous waste treatment, storage, and disposal facilities. Although the destination facilities are subject to these hazardous waste management requirements for treatment and storage activities, the Agency is not addressing mercury reclamation in the scope of this rulemaking. EPA believes that with adequate state oversight, hazardous waste lamps can be safely recycled and the mercury reclaimed. In addition, the Agency believes that recycling facilities will guard against excessive mercury emissions since it is in the recycling facility's best economical interest to limit mercury releases since mercury is essentially the product of the recovery process. The Agency notes that today's rule does not exempt lamp recycling facilities from any applicable OSHA workplace standards or Clean Air Act emission standards. Furthermore, residuals from recovery operations must be managed in accordance with all applicable solid and hazardous waste management requirements. If residuals exhibit a characteristic of hazardous waste, they must be managed as hazardous waste.

DCN FLEP-00130

COMMENTS U.S. Department of Energy

SUBJECT ALTERN

COMMENT 2. DOE recognizes the merits of both the conditional exclusion and the "universal waste" options. Based on data provided by EPA in the proposal, DOE would consider supporting a conditional exclusion of mercury-containing lamps from the hazardous waste program. However, DOE recommends that if the exclusion is implemented, this should not preclude EPA from including lamps in the "universal waste" option. There is no need for the two options to be mutually exclusive, and a generator who does not have access to State/tribe permitted disposal or recycling facilities may want to introduce lamps as hazardous waste into the special collection system.

IV. Management Options (59 FR 38293) IV.A. Conditional Exclusion The option of excluding mercury-containing lamps from regulation as hazardous waste contains two conditions. To qualify for the exclusion, generators would be required to (1) either dispose of these lamps (a) in a municipal solid waste (MSW) landfill that is permitted by a State/Tribe with an EPA approved MSW permitting program, or (b) send these lamps to a State permitted, licensed, or registered mercury reclamation facility-, and (2) keep a record of the lamps sent to management facilities. As stated above, DOE would support the exclusion of mercury-containing lamps from the hazardous waste program. However, DOE recommends that if the exclusion is implemented, the "universal waste" special collection system also should be an option. There is no need for the two options to be mutually exclusive, and a generator who does not have access to state permitted disposal or recycling facilities may want to introduce lamps as hazardous waste into the special collection system.

RESPONSE

The Agency appreciates the commenter's support of the proposed rule to reduce the regulatory requirements for hazardous waste lamp management. The Agency is not excluding hazardous waste lamps from Subtitle C regulation. Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., the universal waste rule is less stringent than full Subtitle C management standards).

DCN SCSP-00131

COMMENTS Monsanto

SUBJECT ALTERN

COMMENT The majority of these fluorescent light bulbs, which could contribute significantly to the mercury concentrations found in municipal landfills, will probably be landfilled as municipal or small quantity generator (SQG) wastes unless recycling is encouraged by the inclusion of these bulbs in this proposed rule. In summaries of Hotline questions, based on the RCRA/Superfund and EPCRA Hotline Reports for August and September 1992: "Used fluorescent light bulbs are considered debris and are eligible for the generic one-year, case-by-case extension (and) ... regardless of the diameter of the pieces, broken light bulbs are considered debris for purposes of the generic one-year, case-by-case extension." So, used hazardous fluorescent light bulbs, even from large quantity generators, are considered contaminated debris (even if broken), are

technically eligible for the generic one-year, case-by-case variance for contaminated debris, and will most likely be landfilled when disposed. The second set of criteria, used to determine the feasibility of regulating these bulbs under the special collection program, is also satisfied. Fluorescents can be safely, efficiently, and beneficially included in this rule.

RESPONSE

The generic one-year, case-by-case variance for contaminated debris that the commenter mentioned has since expired. This variance applied to hazardous waste lamps that were disposed in Subtitle C landfills.

Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps fit most of the criteria established for designating materials as universal waste rule. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards). For handlers; however, ultimately, the spent lamps must either be recycled or treated and disposed at a RCRA hazardous waste facility.

DCN SCSP-00131

COMMENTS Monsanto

SUBJECT ALTERN

COMMENT 5. The Agency should provide relief outside of this rule, to the degree that this rule does not provide such relief, wherein the crushing of fluorescent bulbs into a container does not constitute treatment. The regulated community is struggling with a set of rules that are not well tailored - at least on their face - to the realities of managing fluorescent bulbs as hazardous waste. Of particular concern is the need to crush bulbs as the first step toward shipment of the spent materials to a recycler. Such crushing is recommended by the recycler as a means to prepare the materials for further processing, and to reduce the waste volume that must be shipped. If crushing of bulbs in preparation for shipping and recycling is judged to be "treatment" under the rules, we are at least forced to pursue such treatment in 90-day containers with the complexities that imposes. At worst, a site could be forced into the cumbersome and expensive permitting process just to handle the crushing of bulbs. The definition of treatment at 40 CFR 260.10 is troublesome in that crushing could be judged to "render such wastes...amenable for recovery...or reduced in volume." At the same time, I would like to call your attention to the rationale provided by Mr. David Webster of Region I of the U. S. EPA in

the attached letter to Lighting Recycling, Inc. Mr. Webster is addressing crushing activities that occur at the location of the recycler. He concludes: "If, in fact, the specific management components being proposed for your recyclable materials (i.e. hazardous waste fluorescent bulbs) prior to recycling are not considered storage, but instead integral parts of the actual recycling process, the requirements of 40 CFR 261.6(c)(2) may be applicable to your operation for fluorescent bulb recycling." Please consider the situation wherein the crushing does not occur within the facility of the recycler. We urge the Agency to provide clarification that reaches to any or all of the following positions: - Crushing of fluorescent bulbs into a container does not constitute treatment, or - Crushing of fluorescent bulbs into a container does not constitute treatment if it is performed prior to shipment to a recycler for recovery of mercury values, essentially as the initial step of such recycling, or - Crushing of fluorescent bulbs into a container can be carried out within Satellite Accumulation Areas, as defined in 40 CFR 262.34(c), without a permit. In the referenced letter, the Agency was responsive to the real world needs of the recycler. This clarification regarding the crushing of fluorescent bulbs should be expanded to include the generators of fluorescent bulbs.

RESPONSE

The current universal waste rule prohibits universal waste handlers from treating universal wastes (40 CFR ' 273.11 and 273.31). The final rule for hazardous waste lamps retains the treatment prohibition for universal waste handlers and applies the prohibition to handlers of hazardous waste lamps. The definition of treatment under RCRA includes Any method, technique, or process...designed to change the physical, chemical, or biological character or composition of any hazardous waste, so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.@ The crushing of hazardous waste lamps clearly falls within the definition of treatment under RCRA (40 CFR 260.10).

Some commenters to the proposed hazardous waste lamps rule requested that the Agency allow generators of such lamps to crush them on-site before sending them off-site for treatment or disposal. However, as explained in the preamble to the final universal waste rule (60 **FR** 25519), the Agency believes that it is not appropriate to allow universal waste handlers to treat universal wastes because the handlers are not required to comply with the Subtitle C hazardous waste management standards for generators (40 CFR Part 262). These hazardous waste generators must obtain EPA identification numbers, are subject to the 90-day (or 180-day) accumulation

limit, and must comply with the technical standards of 40 CFR Part 265 for storage and accumulation units. Because these standards are relatively stringent, EPA's policy is that generators may treat hazardous wastes on-site, provided that they comply with all applicable requirements of 40 CFR Part 262 for storage and accumulation of hazardous wastes.

Universal waste handlers, on the other hand, are allowed a much longer accumulation time limit of one year and need not comply with specific technical standards for accumulation and storage units. Instead, they are subject only to the general performance standard of managing universal wastes in a manner that prevents releases to the environment. In addition, information available to the Agency on drum top crushing systems for lamps indicates that these units may allow significant air emissions of mercury, particularly when the units are not in operation, and emissions often may exceed the OSHA limit of 0.05 mg/m³.

For these reasons, the Agency is not allowing crushing of hazardous waste lamps under federal regulations. However, generators located in a state with an authorized universal waste program may be allowed to crush, universal waste lamps, if within the state authorization process the Agency determines that a state's program allowing generators to treat lamps under controlled or restricted conditions is equivalent (per RCRA ' 3006) to the federal prohibition. EPA believes that this approach both ensures protection of human health and the environment while allowing the development of state regulatory programs that include specific standards for the safe crushing of hazardous waste lamps.

DCN FLEP-00149

COMMENTS Weyerhaeuser Company

SUBJECT ALTERN

COMMENT Although Weyerhaeuser Company believes that the disposal of these lamps in Subtitle D landfills poses minimal risk to the environment, Weyerhaeuser Company is a strong proponent of recycling. Weyerhaeuser Company would gladly support government initiatives to develop new technologies and increase the reuse and recycling of all hazardous substances, including mercury. We understand that recycling options for total lamp recycling are not yet fully in place. Weyerhaeuser Company believes this may be a beneficial business opportunity for new business enterprises. EPA's attention would be better spent on encouraging resource conservation rather than using the negative impact of unnecessary regulation to achieve good management practices of used Mercury-Containing Lamps.

RESPONSE

The Agency appreciates the commenter's support of recycling initiatives for hazardous waste lamps. Today's final rule provides generators a degree of flexibility in managing hazardous waste lamps, while ensuring that lamps are handled in a protective manner prior to recycling or disposal.

Generators of hazardous waste lamps are now subject to reduced regulatory requirements which provide a simple and consistent management scheme to facilitate the proper recycling or disposal of hazardous waste lamps.

Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards).

Today's final rule will greatly facilitate the environmentally-sound collection and the proper recycling or treatment of hazardous waste lamps. Based on the belief that less complex and less costly regulations will increase the collection of universal wastes, the Agency did not limit the universal waste system to the recycling of waste. Generators have several options with regard to waste management, but the ability to access large quantities of universal waste from central collection centers may encourage the development of safe and effective methods to recycle universal waste.

DCN FLEP-00156

COMMENTS National Electrical Manufacturers Assn.

SUBJECT ALTERN

COMMENT In addition, the Subtitle C management practices applicable to spent lamps are not designed to address issues associated with the breakage of a fragile waste product and they are not designed to control inorganic air releases at generator facilities and treatment, storage, and disposal facilities (TSDFs). Thus the cost of implementing the Subtitle C regulations provides little benefit in controlling the mercury that can be readily released from fluorescent lamps. Although the risks are small, additional tailored BMPs will need to be implemented at each point in the cycle of disposal in order to further reduce mercury emissions from spent lamps.

The remainder of this section is devoted to more detailed discussion of NEMA's proposed approach, including a description of BMPs, NEMA's recommended definition of lamp, the legal and policy rationale for our regulatory approach, and a brief discussion of enforcement and state authorization issues.

B. DESCRIPTION OF BEST MANAGEMENT PRACTICES The BMPs that NEMA is recommending are listed below with a brief description of the rationale for including the BMP category and the requirements we believe appropriate. The BMPs are based on NEMA's experience managing lamps and on information gained in consultations with experts in both the landfilling and lamp recycling industries.

[14] (Footnote 14: The lamp recycling and landfilling industries

do not necessarily agree with or support the recommended BMPs. NEMA's recommended BMPs represent the manufacturers' views on protective management of spent lamps.) These BMPs would not apply to Conditionally Exempt Small Quantity Generators (CESQGs) of spent lamps, since such generators are already exempted under other provisions of the RCRA regulations. The BMPs also would not apply to spent lamps that are not hazardous waste because they pass the Toxicity Characteristic Leaching Procedure (TCLP) test.

RESPONSE

The Agency thanks the commenter for submitting information addressing management practices of mercury-containing lamps. One goal of the proposed rule was to develop a management option that reduced the regulatory burden of hazardous waste lamp disposal while minimizing mercury releases to the environment. Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards).

Studies show that the greatest threat of mercury releases from the management of lamps is during storage and transport. Uncontrolled crushing and breaking of lamps allows mercury to be emitted into the air. The universal waste rule provides a format for controlling the management of spent lamps during storage and transport, while at the same time providing a more streamlined and less stringent set of standards than the Subtitle C management standards. Today's rule includes storage and packaging standards for handlers of hazardous waste lamps to prevent the uncontrolled and unintentional breakage of lamps during storage and transport.

The universal waste rule is expected to result in cost reductions over Subtitle C management requirements for generators, collectors, and transporters, yet it ensures that lamps are managed in an environmentally protective manner and are properly recycled or treated at Subtitle C facilities prior to disposal. Fewer hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and decreasing the potential for lamps to be crushed and/or broken in uncontrolled environments during storage and transport (e.g., dumpsters and garbage trucks).

DCN FLEP-00156

COMMENTS National Electrical Manufacturers Assn.

SUBJECT ALTERN

COMMENT 7. Recycling Management Facility--necessary to ensure long term financial viability of operators; Federal minimum standards for basic protective practices; and protective reuse of recovered materials; directed toward strictly limiting the amount of mercury allowed into the environment as opposed to simply

transferring low levels of mercury from one air release scenario to another. Also will allow enforcement of sham recycling criteria. a. Recycling facility keeps records for three years of number or volume of lamps recycled, generator of shipment, transporter of shipment, whether lamps arrived intact or crushed, volume of each end product generated, where each end product stream was sent, how long each end product stream was stored, and income received for each end product stream used as a substitute for a commercial product b. Contingency plan/emergency response requirements similar to those in place for Subtitle C facilities and solid waste landfills. c. Financial assurance requirements similar to those for hazardous waste treatment facilities and solid waste landfills. d. Closure plans similar to those for hazardous waste treatment facilities (including decontamination of equipment and removal of all residues.) e. Training requirements similar to those for hazardous waste treatment facilities. f. Plant emission controls covered under OSHA, Clean Air Act, and Clean Water Act requirements. No special RCRA requirements. g. Recyclers must disclose mercury content and content of other contaminants found above detectable levels for each lot of end product delivered to an end user or broker. Alternatively, recyclers can assure that the lot does not exceed a specified Quality Assurance level. Recyclers selling end product for unknown uses or heat applied processing or uses must (i) have non-detectable mercury levels in the product, or (ii) must restrict product sales to users who have permitted mercury controls for their reuse applications, or (iii) must assure that the mercury-contaminated material is not used in a process employing heat. (The current SW-846 method for detecting mercury content is Method 7471, which is not aggressive enough to measure all of the mercury entrained in the glass. This method should be improved before finalization of this rule) For non-heat applied applications, the metals levels must meet the appropriate Land Disposal Restriction (LDR) levels.

RESPONSE

The Agency appreciates the commenter's suggestions for standards for recycling facilities. The Agency is not addressing mercury reclamation processes in the scope of this rulemaking. Recycling units remain exempt from the federal hazardous waste regulations under ' 261.6(c); however, storage of hazardous waste (including lamps) prior to recycling, would require a RCRA permit and all associated requirements at destination facilities. In addition, states may have more stringent regulations for mercury reclamation facilities.

The universal waste rule ensures that mercury emissions are minimized during all stages of lamp management. The universal waste rule includes storage and packaging standards for handlers of hazardous waste lamps to ensure the proper management of spent lamps and to prevent uncontrolled and unintentional breakage during storage and transport to the recycling or treatment facility. Under the universal waste rule, destination facilities (i.e., treatment, disposal, or recycling facilities) are subject to all hazardous waste management requirements applicable to permitted or interim status hazardous waste treatment, storage, and disposal facilities. EPA believes that with adequate state oversight, hazardous waste lamps can be safely recycled and the mercury reclaimed. In addition, the Agency believes that recycling facilities will guard against excessive mercury emissions due to the fact that it is in the recycling facility's best economical interest to limit mercury releases since mercury is essentially the product of the recovery process.

DCN FLEP-00156

COMMENTS National Electrical Manufacturers Assn.

SUBJECT ALTERN

COMMENT 1. The Recycling Standards NEMA recommends that an exclusion for mercury recycling be promulgated under 40 CFR Part 261.6. This section of the RCRA regulations is used to remove from full Subtitle C jurisdiction materials that are recyclable, referring in some cases to more detailed requirements that must be met to qualify for the exclusion, which are often promulgated in Part 266. This approach was used to establish standards for used oil burned for energy recovery, precious metals recovery, and lead acid battery reclamation. NEMA recommends the same approach for lamps. Lamps are similar to these other wastestreams in that Federal minimum standards for recycling practices are needed since some current practices may present significant environmental and health risks. As indicated in our draft regulatory language below, a general statement excluding recycled lamps from full Subtitle C coverage is included under Part 261.6, with BMPs established in Part 266. 261.6 Requirements for recyclable materials (a)(5) Mercury-containing lamps that are recycled and are a hazardous waste because they exhibit a characteristic are not subject to the requirements of Parts 260 through 268 of this chapter but are regulated under Part 266 Subpart I of this chapter. Mercury recycling is defined as a process which produces 99 percent pure mercury, which is directly reused or sent to a mercury refiner off-site.[18] (Footnote 18: Letter from Matthew A. Straus, Chief, Waste Identification Branch, Office of Solid Waste, to Bruce J. Lawrence, President, Bethlehem Apparatus, May 1986. This letter establishes the 99 percent mercury level. See also 50 FR 634, col. 1. (January 4, 1985.)) 266 Subpart I Mercury-Containing

Lamps Being Recycled 266.200 Applicability and requirements (a) The regulations of this subpart apply to persons who recycle spent mercury-containing lamps that are hazardous because they fail a characteristic, as well as to persons who generate, store, transport, collect trash, or otherwise handle such lamps destined for mercury recycling. (b) Mercury-containing lamps destined for mercury recycling must be managed in compliance with the following standards: (i) the generator must keep records for three years after the date of shipment off-site of the number and type of lamp discards, the transporter used, the destination for the lamps, and whether the lamps are intact or crushed. (Lamp replacement purchase orders and other existing paperwork may meet this requirement.) (ii) the generator must report any relamping project over 30,000 lamps to the appropriate state agency; (iii) intact lamps must be stored in original containers or specially designed lamp containers labeled 'Spent Mercury-Containing Lamps' and must be stored on a concrete pad with protection from weather; (iv) crushed and broken lamps must be stored in closed drums or other puncture-proof containers which are labeled 'Spent Mercury-Containing Lamps' and must be stored on a concrete pad with protection from weather; (v) storage of intact lamps is limited to one year or 30,000 lamps, whichever comes first; storage of crushed lamps is limited to one year; (vi) any crushing activities must be conducted in compliance with all OSHA workplace standards; including but not limited to the acceptable ceiling concentration of 0.1 mg/m³, the Hazard Communication Standard (29 CFR 1910.1200), the Respiratory Protection Standard (29 CFR 1910.134), and employee exposure and medical records (29 CFR 1910.20); (vii) crushers must effectively capture all freely available mercury so that they are protective of human health and the environment; (viii) records must be kept for three years after the date of crushing of the number of lamps crushed and the disposition of the mercury-contaminated filter and recovered glass and metal components other than mercury; (ix) the crushing facility must notify the appropriate state agency of the number of lamps crushed in excess of 30,000 lamps per calendar year; (x) all lamps whether crushed or intact must be transported in segregated loads in drums, cartons, or specially designed lamp containers; (xi) all shipments of lamps must be accompanied by shipping papers indicating the generator and the destination for

the lamps, and; (xii) the transporter of the spent lamps must maintain for three years after pick-up of each shipment of a load of lamps, the number or volume of intact lamps or the weight of crushed lamps transported in the shipment, whether the lamps were boxed or drummed, the generator, and the receiving facility. (c) The recycling facility must keep the following records for three years: (I) the number/volume/weight of lamps recycled, (ii) the generator and transporter of each shipment, (iii) whether the lamps in each shipment arrived intact or crushed, (iv) the annual volume of each end product recovered, (v) the customer for each shipment of end product, (vi) the length of time each batch of end product was stored, and vii) annual income received for each end product stream used as a substitute for a commercial product (d) Lamp recycling facilities must comply with the requirements of Part 264.14 through 264.18 and Part 264 Subparts C and D. (e) Lamp recycling facilities must comply with the requirements of Part 264 Subpart G. (f) Lamp recycling facilities must comply with the requirements of Part 264 Subpart H. (g) Lamp recyclers must disclose to each purchaser of reclaimed materials the mercury content and content of other contaminants found in each batch sold, or must assure that each batch meets the level specified below, based on its intended end use. (i) For uses employing heat and for uses unknown to the recycler, the end product must contain non-detectable levels of mercury as ascertained by SW-846 method 7471[19] (Footnote 19: Method 7471 is the only promulgated method at present. However, it is not aggressive enough to measure all of the mercury entrained in the glass and should be improved before finalization of this rule.) or equivalent, or recyclers must restrict product sales to users who have permitted mercury controls for their re-use applications. (ii) For uses not employing heat, end product mercury levels must meet appropriate LDR levels. (h) Lamp recyclers must keep on file an annual certification statement that they have complied with all applicable regulations under this Subpart. The certification statement must list all applicable requirements complied with.

RESPONSE

The Agency appreciates the commenter's suggestions of alternatives for the management of mercury-containing lamps. Although EPA encourages generators of spent lamps to manage their lamps in a protective manner including environmentally responsible recycling programs, the Agency does not believe that the risks associated with the management of spent lamps warrant the

type of exclusion and extensive management practices suggested by the commenter.

Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards).

The universal waste rule is expected to result in cost reductions over Subtitle C management requirements for generators, collectors, and transporters, yet it ensures that lamps are managed in an environmentally protective manner and are properly recycled or treated at Subtitle C facilities prior to disposal. Fewer hazardous waste lamps are expected to be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and decreasing the potential for lamps to be crushed and/or broken in uncontrolled environments during storage and transport (e.g., dumpsters and garbage trucks).

DCN FLEP-00157

COMMENTS American Trucking Association, Inc.

SUBJECT ALTERN

COMMENT If EPA chooses to establish management standards for mercury-containing lamps, they should consider the following: 1. Require the manufacturers of lights that contain mercury to notify the public which of their products would be classified as hazardous waste. This would eliminate unnecessary testing and dramatically reduce compliance costs for nearly all businesses. 2. Require only that the generator arrange for the lights to be ultimately disposed at a facility acceptable to the EPA. The same care could be given to old bulbs as to new ones. There is a very low incident of breakage of new bulbs when they are in storage or use at most facilities. 3. Eliminate the training and record keeping requirements.

RESPONSE

The Agency appreciates the commenter's suggestions concerning the management of mercury-containing lamps. EPA cannot address manufacturer product notification under the statutory authority of RCRA, therefore the commenter's request for manufacturer notification is beyond the scope of this rulemaking.

Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards). Under today's final rule, generators of lamps that exhibit a hazardous waste characteristic qualify as universal waste.

The universal waste rule is expected to result in cost reductions over Subtitle C management

requirements for generators, collectors, and transporters, yet it ensures that lamps are managed in an environmentally protective manner and are properly recycled or treated at Subtitle C facilities prior to disposal. The universal waste rule provides a format for controlling the management of spent lamps during storage and transport and includes storage and packaging standards to prevent uncontrolled and unintentional breakage.

The final rule requires universal waste handlers to manage universal waste lamps in a way that prevents releases of the lamps or the components of the lamps to the environment. Spent lamps must be packed to minimize breakage and packaging materials must be designed to contain potential releases due to breakage during transport. Universal waste lamps must be stored in containers or packages that remain closed, are structurally sound, adequate to prevent breakage, compatible with contents of lamps, and lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions. Examples of acceptable packaging could include placing the lamps evenly spaced in double or triple-ply cardboard containers with closed lids. Handlers also must contain any universal waste lamps that show evidence of breakage, leakage, or damage that could cause the release of mercury or other hazardous waste to the environment. An example of such containment could include placing unintentionally broken lamps in closed wax fiberboard drums.

The Agency points out that, in addition to these container and packaging provisions, universal waste handlers, including handlers of universal waste lamps, must comply with the provisions of 40 CFR ' ' 273.17 and 273.37 for responding to releases of universal waste. Handlers of universal waste must immediately contain all releases of universal waste and any residues from universal wastes. In addition, universal waste handlers must determine whether any material resulting from a release is a hazardous waste and, if so, must manage the hazardous waste in compliance with all applicable provisions of 40 CFR Parts 260 through 268, as well as all other applicable statutory provisions. Hazardous waste lamps must ultimately be disposed of or recycled at a RCRA hazardous waste facility.

The universal waste rule does not require formal training for facility employees, but does require that employees at large quantity handler facilities are thoroughly familiar with proper waste handling and emergency procedures related to their responsibilities, and employees at small quantity handler facilities be informed of the proper handling and emergency procedures appropriate to the types of universal waste being handled. The Agency believes that a basic employee training requirement is necessary to ensure that employees are specifically familiar with waste handling procedures. Training that is required under other programs (e.g., OSHA, RCRA Subtitle C) will most likely meet the Part 273 training requirements, and records for training provided to employees are not required to be kept.

The universal waste rule includes a basic record keeping requirement to track waste shipments arriving at and leaving from handlers of large quantities of universal waste (i.e., one who accumulates greater than 5,000 kg total universal waste at one time). The required records may

take the form of a log, invoice, manifest, bill of lading, or other shipping document and are to be maintained for three years. The Agency believes that standard business records that would normally be kept by any business will fulfill this requirement.

DCN FLEP-00163

COMMENTER Massachusetts Dept. of Environ. Prot.

SUBJECT ALTERN

COMMENT While the MA DEP does not fully concur with either of the two options presented in EPA's proposal for Mercury Containing Lamps, there are elements contained within each alternative that the MA DEP supports. To that end, the MA DEP is presenting along with its comments on Options 1 and 2, a suggested third management scheme that is essentially a modified version of Option 2, the Universal Waste System. In addition, MA DEP is submitting data on mercury releases from six (6) non-hazardous waste landfills (see attached) . III. Response to Questions Asked in Proposed Rule: Should SFLs be Managed Under the Conditional Exclusion or the Special Collection System? IV. Option 3--MA DEP Proposal MA DEP's proposed option is based on 1) its preference in the BWP waste management hierarchy for recycling over disposal; 2) a ban on incineration of all SFLs containing mercury; and 3) the MA DEP's current approach for regulating other C-/D+ wastes (e.g. oil filters, lighting ballasts, lead-acid batteries, etc.). The MA DEP proposes a management option that would not regulate SFLs (that are in fact a hazardous waste) as a hazardous waste until they are either broken or aggregated at an off-site location for recycling and/or storage; full Subtitle C requirements apply once the SFLs reach the consolidation point. Under this option, dismantled components (i.e. end caps, phosphor powder and glass) are sent off-site for either lawful recycling or disposal as a hazardous waste, whichever is appropriate. (Footnote 1 - DEP feels that given the presence of residual quantities of mercury in SFL glass, certain restrictions must apply to how the glass is recycled (e.g. SFL glass should not be used for glass food containers). SFLs consigned for disposal in a Subtitle D landfill would be subject to a hazardous waste determination. This approach is currently in effect in Massachusetts for SFLs, as well as used lighting ballasts containing Polychlorinated Biphenyls (PCBs) , a listed hazardous waste in Massachusetts. Under MA DEP policy, lighting ballasts containing PCBs are not regulated as a hazardous waste until they are aggregated at a

dismantling facility or collected at a consolidation point, which then becomes a regulated generator. PCB-containing ballasts consigned for disposal are hazardous wastes in Massachusetts. The option being proposed by MA DEP is therefore a modification of Option 2. However, the DEP approach would add accumulation quantity and time limits on the consolidation points, regulating them as Small or Large Quantity Generators and making "Option 3" more restrictive than option 2 in one sense MA DEP feels that regulating these consolidation points as SQGs/LQGs is adequately protective of public health and the environment. A consolidation point, registered as a generator of hazardous-waste, could therefore receive intact SFLs without a manifest from sites originating the SFLs. The MA DEP's current position is that a consolidation point could not receive hazardous SFLs from another consolidation point, unless the "receiving" consolidation point obtained a recycler status from the U.S. Environmental Protection Agency and was allowed to receive hazardous SFLs on a manifest, or the "receiving" consolidation point was in fact a RCRA TSDF. This restriction would help to minimize movement of SFLs among different consolidation points. Under Option 3, a nonhazardous waste hauler could pick up small quantities of intact SFLs and deliver them in bulk to a consolidation point without manifesting, so as to practically serve small businesses. Small businesses could also deliver SFLs directly to a consolidation point or recycler. Although not yet policy, MA DEP is considering allowing small businesses which are originators of SFLs to give their SFLs to another originator of SFLs without the second originator being considered a consolidation point. Unlike the Universal Waste proposal (Option 2) , MA DEP does not advocate accumulation time limits on storage of intact SFLs at origination points since they would not yet be hazardous under the MA DEP scheme (i.e. before crushing or consolidation). Under the MA DEP approach, cracked/crushed SFLs are subject to a Toxicity Characteristic (TC) determination at the time of cracking/crushing, given the potential to leak hazardous substance to the environment. This is consistent with MA DEP's position on cracked/leaking PCB lighting ballasts and lead-acid batteries. This approach could effectively discourage disposal compared to keeping the SFLs intact and recycling them. This waste management scheme has worked well in Massachusetts to the extent that it has eliminated some unnecessary Subtitle C requirements on several

C-/D+ waste streams. Option 3 is in some ways more restrictive than Option 2 given the tighter accumulation limits on consolidation points, and less restrictive since there are no accumulation limits on intact SFLs at the origination sites.

Although Option 3 may be more costly to generators than Option 1, it is consistent with how MA DEP has regulated other similar C-/D+wastes and provides what the Department considers an appropriate level of protection to public health and the environment.

RESPONSE

The Agency appreciates the commenter's suggestions for other alternatives for the management of hazardous waste lamps. The Agency thanks the commenter for submitting comments and additional information addressing issues raised in the proposed rule; however, the Agency does not believe that the risks associated with the management of spent lamps warrant the type of management practices suggested by the commenter. Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards).

The Agency published a Notice of Data Availability on July 11, 1997 (62 FR 37183). This notice presented data collected by the Agency and an assessment of potential mercury emissions from the management of hazardous waste lamps under several regulatory approaches. The Agency does not have extensive data characterizing the behavior of mercury released from spent lamps in a landfill environment over long periods of time. Although available data may support the conclusion that mercury may stay in a stable, non-mobile state for many years and may not migrate from a landfill environment very quickly, studies also show that the greatest threat of mercury releases from the management of lamps is during storage and transport. Uncontrolled crushing and breaking of lamps allows mercury to be emitted into the air. The universal waste rule provides a format for controlling the management of spent lamps during storage and transport, while at the same time providing a more streamlined and less stringent set of standards than the Subtitle C management standards.

EPA studies have determined that the majority of hazardous waste lamps fail the TCLP for mercury and sometimes for lead. Spent lamps that exhibit any of the hazardous waste characteristics are subject to today's rulemaking.

The universal waste rule is expected to result in cost reductions over Subtitle C management requirements for generators, collectors, and transporters, yet it ensures that lamps are managed in an environmentally protective manner and are properly recycled or treated at Subtitle C facilities prior to disposal. Hazardous waste lamps may be incinerated only in Subtitle C incinerators. Fewer hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and decreasing the potential for

lamps to be crushed and/or broken in uncontrolled environments during storage and transport (e.g., dumpsters and garbage trucks).

Source reduction, which is the reduction or elimination of the toxicity and/or volume of a waste product, is at the top of EPA's hierarchy of solid waste management methods. The Agency encourages cost-effective source reduction of mercury contained in fluorescent lamps. Second on the hierarchy is recycling. Today's final rule will greatly facilitate the environmentally-sound collection and the proper recycling or treatment of hazardous waste lamps. Based on the belief that less complex and less costly regulations will increase the collection of universal wastes, the Agency did not limit the universal waste system to the recycling of waste. Generators have several options with regard to waste management, but the ability to access large quantities of universal waste from central collection centers may encourage the development of safe and effective methods to recycle universal waste.

This final rule provides a uniform approach for the management of hazardous waste lamps at the federal level; however, individual states may have more stringent requirements for the management of this waste. Today's rule becomes effective in states that are not authorized for the federal Subtitle C hazardous waste program, but will not be immediately effective in authorized states since the requirements are not promulgated pursuant to HSWA. These requirements will not be effective in authorized states until such states revise their solid waste management programs to adopt equivalent requirements. More than 35 states already have either added hazardous waste lamps to their universal waste rule programs or are proposing to do so. EPA strongly encourages them to adopt today's final rulemaking that adds hazardous waste lamps to the federal universal waste rule program not only to achieve the most benefit from the universal waste program but also to reduce the complexity of interstate transportation of these universal wastes.

DCN FLEP-00168

COMMENTS Merck and Company, Inc.

SUBJECT ALTERN

COMMENT The management system for mercury-containing lamps could mirror the current exclusion for lead-acid batteries that are destined for recycling as per 40 CFR 266 Subpart G. This section states "persons who generate, transport, or collect spent batteries, or who store spent batteries but do not reclaim them are not subject to regulation under Parts 262 through 266 or part 270 or 124 of this chapter, and also are not subject to the requirements of section 3010." The State of New Jersey appears to have adopted a similar program to remove fluorescent tubes from the municipal solid waste stream that is destined for resource recovery facilities. (Footnote 1 - Letter from Robert C. Shinn, NJDEP to Blanche Banasiak, Union County Utilities

Authority, dated August 3, 1994). NJDEP is allowing the Union County Utilities Authority (UCUA) to manage all fluorescent bulbs regardless of the generator status of the facility that generated the lamps. The fluorescent bulbs would not be included in the quantity reported by regulated hazardous waste generators in the determination of their generator status nor would it be included in biennial reports.

RESPONSE

The Agency appreciates the commenter's suggestion of other alternatives for the management of hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards).

Spent lamps that exhibit any of the hazardous waste characteristics are subject to today's rulemaking. Spent lamps that are managed as universal waste rule under Part 273 are not included in a facility's determination of hazardous waste generator status (' 261.5(c)(6)). Therefore, if a facility manages hazardous waste lamps under the universal waste rule system and does not generate any other hazardous waste, the facility will not be subject to other parts of the Subtitle C regulations such as the hazardous waste generator regulations in Part 262.

Today's final rule may reduce much of the current confusion over the regulatory status of spent lamps, at least at the federal level; however, individual states may have more stringent requirements for the management of this waste. Today's rule becomes effective in states that are not authorized for the federal Subtitle C hazardous waste program, but will not be immediately effective in authorized states since the requirements are not promulgated pursuant to HSWA. These requirements will not be effective in authorized states until such states revise their solid waste management programs to adopt equivalent requirements. More than 35 states already have either added hazardous waste lamps to their universal waste rule programs or are proposing to do so. EPA strongly encourages them to adopt today's final rulemaking that adds hazardous waste lamps to the federal universal waste rule program not only to achieve the most benefit from the universal waste program but also to reduce the complexity of interstate transportation of these universal wastes.

DCN FLEP-00170

COMMENTER National Assn. of Energy Services Comp.

SUBJECT ALTERN

COMMENT In light of the

above, NAESCO's members suggest that the EPA consider adopting a three-part approach to the issues related to the management of spent mercury-containing lamps. First, recycling to remove mercury from the wastes, as opposed to landfill disposal, should

be the centerpiece of the EPA's approach. NAESCO also believes that the regulation of recycling should include the management of lamp subcomponents following recycling. Second, the handling of spent lamps from the point of generation to the point of final disposal or recycling should be carefully managed through the adoption of regulatory measures appropriate to the handling, storage and transportation of waste lamps. (Footnote 1 - Some groups are using the term "best management practices" to refer to specific regulatory measures they would like to see the EPA adopt here. While NAESCO encourages the EPA to give serious consideration to the suggestion offered by these groups, we are not in a position to advocate specific management practices at this time. Therefore, we are using "regulatory measures" or "handling practices" as general references in our discussions of the need for the EPA to regulate not only the disposal or recycling of spent lamps, but also their handling, transportation and storage beginning at the point of generation.) Finally, the EPA should provide for the re-evaluation and possible revision of these handling practices, including the disposition of post-recycling lamp subcomponents, within three to five years. This period will allow for a more thorough identification of sources and levels of mercury emissions associated with the various waste management practices, and will provide an opportunity to assess the success of the practices adopted.

RESPONSE

The Agency appreciates the commenter's suggestions for other alternatives for the management of hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards).

Studies show that the greatest threat of mercury releases from the management of lamps is during storage and transport. Uncontrolled crushing and breaking of lamps allows mercury to be emitted into the air. The universal waste rule provides a format for controlling the management of spent lamps during storage and transport, while at the same time providing a more streamlined and less stringent set of standards than the full Subtitle C management standards. Today's rule includes storage and packaging standards for handlers of hazardous waste lamps to prevent uncontrolled and unintentional breakage during storage and transport.

Today's final rule will greatly facilitate the environmentally-sound collection and the proper recycling or treatment of hazardous waste lamps. Based on the belief that less complex and less

costly regulations will increase the collection of universal wastes, the Agency did not limit the universal waste system to the recycling of waste. Generators have several options with regard to waste management, but the ability to access large quantities of universal waste from central collection centers may encourage the development of safe and effective methods to recycle universal waste.

The Agency is not including a sunset provision with today's final rule. The Agency believes that the data and information provided to the Agency and the Agency's own studies and analyses that were conducted during the period of time since the hazardous waste lamps rulemaking was proposed provide adequate evidence of the behavior of mercury in the environment and the potential releases of mercury to the environment to support today's final rule. The Agency notes, however, that should sufficient and compelling information related to the behavior of mercury become available in the future, the Agency can always re-evaluate the standards promulgated in today's final rule.

DCN SCSP-00175

COMMENTER Hazardous Waste Treatment Council

SUBJECT ALTERN

COMMENT The Treatment Council finds EPA's current position on these wastes difficult to justify. On the one hand, EPA is actively encouraging the replacement of fluorescent lights, in order to conserve natural resources and reduce pollution. On the other hand, EPA would allow these lights to be discarded in an environmentally unsound manner because the agency disfavors full Subtitle C regulation. At the same time, the Agency apparently is opposed to including used fluorescent light bulbs in a special system that is designed to increase collection of these bulbs and that would cause the bulbs to be managed in a more environmentally protection manner. Neither extreme -- total exemption or full regulation -- is warranted.

RESPONSE

The Agency agrees with the commenter and has not promulgated the conditional exclusion for hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards). Regarding the disposal of hazardous waste lamps, today's rule specifies that universal waste destination facilities (i.e., facilities that treat, dispose, or recycle universal waste) are subject to all applicable requirements for hazardous waste treatment, storage, and disposal facilities and must receive a RCRA permit for such activities. Hazardous waste recycling facilities that do not store hazardous wastes prior to recycling may be exempt from permitting under federal regulations (40 CFR 261.6(c)(2)).

The universal waste rule is expected to result in cost reductions over Subtitle C management requirements for generators, collectors, and transporters, yet it ensures that lamps are managed in an environmentally protective manner and are properly recycled or treated at Subtitle C facilities prior to disposal. Fewer hazardous waste lamps are expected to be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and decreasing the potential for lamps to be crushed and/or broken in uncontrolled environments during storage and transport (e.g., dumpsters and garbage trucks).

DCN FLEP-00176

COMMENTS Coalition of Lamp Recyclers

SUBJECT ALTERN

COMMENT The Coalition of Lamp Recyclers strongly supports including lamps in a modified universal waste management system. The Coalition of Lamp Recyclers supports providing regulatory relief to encourage and facilitate recycling. Within that framework, the Coalition supports the inclusion of the attached Best Management Practices for recyclers rather than full Subtitle C regulatory control, requiring part B permitting. Alternatively, if the EPA is considering exclusion of this hazardous waste, the Coalition offers exclusion of lamps under a structure in 40 CFR ' 261.6, allowing mercury-containing lamps not to be subject to the hazardous waste requirements provided that the lamps are recycled.

RESPONSE

The Agency appreciates the commenter's suggestion of other alternatives for the management of hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., the universal waste rule is less stringent than Subtitle C management standards).

Under the universal waste rule, destination facilities (i.e., treatment, disposal, or recycling facilities) are subject to all hazardous waste management requirements applicable to permitted or interim status hazardous waste treatment, storage, and disposal facilities. Although the destination facilities are subject to these hazardous waste management requirements for treatment and storage activities, the Agency is not addressing mercury reclamation in the scope of this rulemaking. EPA believes that with adequate state oversight, hazardous waste lamps can be safely recycled and the mercury reclaimed. In addition, the Agency believes that recycling facilities will guard against excessive mercury emissions since it is in the recycling facility's best economical interest to strive to limit mercury releases since mercury is essentially the product of the recovery process.

Although EPA encourages generators of spent lamps to manage their lamps in a protective

manner including environmentally responsive recycling programs, the Agency does not believe that the risks associated with spent lamps warrant an exclusion for hazardous waste lamps to be recycled under ' 261.6. Today's final rule will greatly facilitate the environmentally-sound collection and the proper recycling or treatment of hazardous waste lamps. Based on the belief that less complex and less costly regulations will increase the collection of universal wastes, the Agency did not limit the universal waste system to the recycling of waste. Generators have several options with regard to waste management, but the ability to access large quantities of universal waste from central collection centers may encourage the development of safe and effective methods to recycle universal waste.

DCN FLEP-00177

COMMENTS Philps Lighting Company

SUBJECT ALTERN

COMMENT However, it is extremely important that the Agency add a strict set of Best Management Practices (BMPs) for the recyclers, landfills and transporters. With proper BMPS, this would be equivalent to Subtitle C management without burdensome regulation.

RESPONSE

Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., the universal waste rule is less stringent than Subtitle C management standards).

Studies show that the greatest threat of mercury releases from the management of lamps is during storage and transport. Uncontrolled crushing and breaking of lamps allows mercury to be emitted into the air. The universal waste rule provides a format for controlling the management of spent lamps during storage and transport, while at the same time providing a more streamlined and less stringent set of standards than the Subtitle C management standards.

The universal waste rule ensures that mercury emissions are minimized during all stages of lamp management. The universal waste rule includes storage and packaging standards for handlers of hazardous waste lamps to ensure the proper management of spent lamps and to prevent uncontrolled and unintentional breakage during storage and transport to the recycling or treatment facility. Under the universal waste rule, destination facilities (i.e., treatment, disposal, or recycling facilities) are subject to all hazardous waste management requirements applicable to permitted or interim status hazardous waste treatment, storage, and disposal facilities. Although recycling processes are exempt from substantial federal Subtitle C regulation under ' 261.6(c), EPA believes that with adequate state oversight, hazardous waste lamps can be safely recycled and the mercury reclaimed. In addition, the Agency believes that recycling facilities will guard against excessive mercury emissions since the fact it is in the recycling facility's best economical interest to strive to limit mercury releases since mercury is essentially the product of the recovery process.

DCN FLEP-00178

COMMENTS General Electric Company

SUBJECT ALTERN

COMMENT The most appropriate approach for managing spent lamps is to design a mandatory set of tailored Best Management Practices (BMPs) outside of the Subtitle C framework designed specifically for the unique properties of spent lamps. The exclusion as proposed by EPA sets the base framework for this, but should be supplemented with BMPs. BMPs should be developed for both land management and recycling.

VIII. CONCLUSIONS The available evidence overwhelmingly points to the low risks from the management of spent mercury containing lamps. To the extent that risks do exist, they are primarily from air emissions due to breakage during storage and transportation, and from the post-recycling use of lamp materials. On the other hand, the energy and environmental benefits of mercury containing lamps are well demonstrated. Energy-efficient lighting is an integral component of reducing domestic energy demand and minimizing the environmental impacts of energy consumption. The minimal risks posed by managing spent mercury containing lamps can be simply controlled under a Subtitle C exclusion with the mandatory best management practices as identified in the comments submitted by NEMA. The advantage of such an approach over the current system and over a Universal Waste structure is that the costs of spent lamp management are kept at a reasonable level and energy-saving lamp upgrades are not discouraged. Another advantage of the Subtitle C exclusion with BMPs is that it affords all lamp users a range of safe management options while allowing recycling markets to develop. Important changes in technical and market changes need to occur--changes GE could help facilitate--before widespread lamp recycling make environmental and economic sense. Safe landfill options need to be available in areas where a recycling business cannot be economically or environmentally justified. The approach advocated by NEMA and GE would accomplish that.

RESPONSE

The Agency appreciates the commenter's suggestions of alternatives for the management of hazardous waste lamps. Although EPA encourages generators of spent lamps to manage their lamps in a protective manner including environmentally responsive recycling programs, the Agency does not believe that the risks associated with the management of spent lamps warrant the

type of exclusion and extensive management practices suggested by the commenter.

Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards), yet ensures that mercury emissions are minimized by requiring proper storage and packaging and requiring immediate containment of any broken lamps.

The universal waste rule is expected to result in cost reductions over Subtitle C management requirements for generators, collectors, and transporters, yet it ensures that lamps are managed in an environmentally protective manner and to be properly recycled or treated at Subtitle C facilities prior to disposal. Fewer hazardous waste lamps should be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and decreasing the potential for lamps to be crushed and/or broken in uncontrolled environments during storage and transport (e.g., dumpsters and garbage trucks).

DCN FLEP-00179

COMMENTS Environmental Defense Fund

SUBJECT ALTERN

COMMENT We suggest that EPA study whether separate regulation of ordinary fluorescent lamps and High Intensity Discharge (HID) lamps is warranted, as their respective lamp components are quite dissimilar. HID lamps, which illuminate streets, parking lots, etc., contain significant quantities of other heavy metals besides mercury (e.g., lead) and require recovery by recyclers using modified reprocessing technologies. Further, HID lamp fill and component materials are likely to have sufficient value to allow recycling of spent fluorescent lamps where the mercury requires additional processing prior to reuse in new lamps and other spent lamp components are waste materials. Spent HID lamp management regulations should either be revisited at a later date after soliciting additional comments relating to this suggestion or, since HID lamps are believed to represent less than 5 percent of the mercury-containing lamp waste stream, EPA should include HID lamps in the final rule only on an interim basis.

RESPONSE

Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards).

The definition of lamp in today's rule includes high intensity discharge lamps (40 CFR 260.10).

In addition, the Agency decided to include all spent lamps that exhibit any of the hazardous waste characteristics (e.g., lead) in today's rulemaking. Commenters generally supported adding all hazardous waste lamps to the universal waste program. These lamps appear to meet the criteria for inclusion in the universal waste program and EPA does not believe the presence of other hazardous constituents (principally lead) should preclude such lamps from being managed as universal wastes.

DCN SCSP-00181

COMMENTER General Electric Company

SUBJECT ALTERN

COMMENT Should the Agency feel that these risks compel control in the interim, they can be addressed through an interim prohibition on burning fluorescent lamps in MSW combustors. This could work in a similar fashion to the interim prohibition considered by the Agency to address MSW combustor mercury emissions resulting from batteries in MSW stream. See 54 Fed. Reg. 52, 251 (Dec. 20, 1990).

RESPONSE

Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., the universal waste rule is less stringent than Subtitle C management standards).

Under the universal waste rule, lamps are still considered hazardous waste if they exhibit a hazardous waste characteristic and ultimately must be managed at a RCRA Subtitle C facility or recycled. Burning hazardous waste lamps in a MSW combustor is not allowed under either full Subtitle C regulations or under the universal waste approach adopted by today's rule. Under the universal waste approach, fewer hazardous waste lamps are expected to be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and decreasing the potential for lamps to be crushed and/or broken in uncontrolled environments during storage and transport (e.g., dumpsters and garbage trucks).

DCN FLEP-00184

COMMENTER Assn. of International Auto Manuf., Inc.

SUBJECT ALTERN

COMMENT SUPPORT OF TOTAL EXEMPTION. AIAM commends EPA's decision to consider management options for mercury-containing lamps that would be less stringent than the existing Federal regulations which would subject them to full Resource Conservation and Recovery Act (RCRA) Subtitle C hazardous waste requirements. Yet, AIAM is recommending a total exemption for mercury-containing lamps. Both options contemplated in the proposal would still place an unnecessary burden on industry and

would discourage voluntary energy conservation/global climate change efforts which have been promoted by the Agency. Unless mercury-containing lamps are fully exempted, the disposal and transportation costs that would be required under EPA's suggested management standards would be similar to the disposal costs for transporting toxic waste. Although it would be possible to reduce the volume of waste, and therefore the cost of transportation by shipping spent lamps in a crushed form rather than in whole containers, this would not eliminate the cost burden. EPA's proposed management standards would still impose the additional costs of record keeping.

CONCLUSION AIAM encourages EPA to provide a full exemption for mercury-containing lamps from RCRA handling requirements to further its own policy of environmental protection by means of pollution prevention rather than waste management.

RESPONSE

Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The Agency believes that management controls for hazardous waste lamps are necessary to minimize releases of hazardous constituents to the environment during accumulation and transport, to ensure safe handling of such lamps, and to keep hazardous waste lamps out of municipal waste management facilities (both landfills and solid waste incinerators).

The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards). Studies show that the greatest threat of mercury releases from the management of lamps is during storage and transport. Uncontrolled crushing and breaking of lamps allows mercury to be emitted into the air. The universal waste rule provides a format for controlling the management of spent lamps during storage and transport, while at the same time providing a more streamlined and less stringent set of standards than the full Subtitle C management standards.

The universal waste rule is expected to result in cost reductions over Subtitle C management requirements for generators, collectors, and transporters, yet it ensures that lamps are managed in an environmentally protective manner and are properly recycled or treated at Subtitle C facilities prior to disposal. Fewer hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and decreasing the potential for lamps to be crushed and/or broken in uncontrolled environments during storage and transport (e.g., dumpsters and garbage trucks).

The universal waste rule includes a basic record keeping requirement to track waste shipments arriving at and leaving from handlers of large quantities of universal waste (i.e., one who accumulated greater than 5,000 kg total universal waste at one time). The required records may

take the form of a log, invoice, manifest, bill of lading, or other shipping document and are to be maintained for three years. The Agency believes that standard business records that would normally be kept by any business will fulfill this requirement.

DCN FLEP-00185

COMMENTS British Things, Inc.

SUBJECT ALTERN

COMMENT To accomplish its objective of cost-effective regulation, EPA should provide an exclusion from Subtitle C as proposed in its rule, but should supplement the exclusion with tailored management standards that focus on the real risks associated with spent mercury containing lamps. These comments provide suggestions, based in part on "best management practices" developed by the National Electrical Manufacturers Association (NEMA), for such management standards.

III. COMMENTS ON EPA'S PROPOSAL In its proposed rule, EPA presented two approaches--Universal Waste and an exclusion from Subtitle C--for managing mercury containing lamps. A third option, of course, is to maintain the current regulatory scenario which subjects mercury containing lamps to full Subtitle C regulation if they exhibit the Toxicity Characteristic (TC). Of these approaches, Universal Waste is clearly the least preferred as it would completely prohibit the use of the BTI System technology. The current regulatory scenario (i.e., a "Subtitle C" system) would preclude the use of the technology in certain states and nationwide as a mobile technology. The exclusion option, we believe, is necessary to encourage sound management. However, we agree with NEMA and others that additional management standards may be desirable.

RESPONSE

The Agency appreciates the commenter's suggestions for the management of hazardous waste lamps. One goal of the proposed rule was to develop a management option that reduced the regulatory burden of hazardous waste lamp management while minimizing mercury releases to the environment. Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards).

Studies show that the greatest threat of mercury releases from the management of lamps is during storage and transport. Uncontrolled crushing and breaking of lamps allows mercury to be emitted into the air. The universal waste rule provides a format for controlling the management of spent

lamps during storage and transport, while at the same time providing a more streamlined and less stringent set of standards than the Subtitle C management standards. The universal waste rule ensures that mercury emissions are minimized during all stages of lamp management. The universal waste rule includes storage and packaging standards for handlers of hazardous waste lamps to ensure the proper management of spent lamps and to prevent uncontrolled and unintentional breakage during storage and transport to the recycling or treatment facility. Under the universal waste rule, destination facilities (i.e., treatment, disposal, or recycling facilities) are subject to all hazardous waste management requirements applicable to permitted or interim status hazardous waste treatment, storage, and disposal facilities. The universal waste rule is expected to result in cost reductions over Subtitle C management requirements for generators, collectors, and transporters, yet it ensures that lamps are managed in an environmentally protective manner and are properly recycled or treated at Subtitle C facilities prior to disposal.

The current universal waste rule prohibits universal waste handlers from treating universal wastes (40 CFR ' 273.11 and 273.31). The final rule for hazardous waste lamps retains the treatment prohibition for universal waste handlers and applies the prohibition to handlers of hazardous waste lamps. The definition of treatment under RCRA includes Any method, technique, or process...designed to change the physical, chemical, or biological character or composition of any hazardous waste, so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.@ The crushing of hazardous waste lamps clearly falls within the definition of treatment under RCRA (40 CFR 260.10).

Some commenters to the proposed hazardous waste lamps rule requested that the Agency allow generators of such lamps to crush them on-site before sending them off-site for treatment or disposal. However, as explained in the preamble to the final universal waste rule (60 **FR** 25519), the Agency believes that it is not appropriate to allow universal waste handlers to treat universal wastes because the handlers are not required to comply with the Subtitle C hazardous waste management standards for generators (40 CFR Part 262). These hazardous waste generators must obtain EPA identification numbers, are subject to the 90-day (or 180-day) accumulation limit, and must comply with the technical standards of 40 CFR Part 265 for storage and accumulation units. Because these standards are relatively stringent, EPA's policy is that generators may treat hazardous wastes on-site, provided that they comply with all applicable requirements of 40 CFR Part 262 for storage and accumulation of hazardous wastes.

Universal waste handlers, on the other hand, are allowed a much longer accumulation time limit of one year and need not comply with specific technical standards for accumulation and storage units. Instead, they are subject only to the general performance standard of managing universal wastes in a manner that prevents releases@to the environment. In addition, information available to the Agency on drum top crushing systems for lamps indicates that these units may allow significant air emissions of mercury, particularly when the units are not in operation, and

emissions often may exceed the OSHA limit of 0.05 mg/m³.

For these reasons, the Agency is not allowing crushing of hazardous waste lamps under federal regulations. However, generators located in a state with an authorized universal waste program may be allowed to crush, universal waste lamps, if within the state authorization process the Agency determines that a state's program allowing generators to treat lamps under controlled or restricted conditions is equivalent (per RCRA ' 3006) to the federal prohibition. EPA believes that this approach both ensures protection of human health and the environment while allowing the development of state regulatory programs that include specific standards for the safe crushing of hazardous waste lamps.

DCN FLEP-00185

COMMENTS British Things, Inc.

SUBJECT ALTERN

COMMENT C. An Exclusion Combined with Specific Management Standards is the Best Approach. We believe that an exclusion from Subtitle C as proposed by EPA would make the most sense environmentally and economically. The exclusion, however should be combined with management requirements that address the specific concerns associated with different lamp management techniques. This approach, supported by NEMA and others, provides for cost-effective management of lamps while addressing the most important environmental concerns. It also would allow for the application of safe, on-site, crushing systems, such as the BTI System. The management requirements associated with the exclusion should address each stage and type of management scenario. We believe EPA should consider the following: 1. Recordkeeping and Reporting for Generators [1] [Footnote 1: Note that the management standards proposed in these comments differ slightly from those recommended by NEMA.] a. Generators must keep records of the number and type of each spent lamp, the name of the certified hazardous waste transporter used, the destination of each lamp shipment, and whether lamps are shipped whole or crushed. B. Generators must report to EPA (or other designated agency) any relamping projects involving more than 5,000 lamps in a year. These record keeping requirements will facilitate enforcement of the management requirements and will encourage compliance among generators undertaking lamp projects. We believe that 5,000 lamps is a more appropriate number than 35,000 lamps as suggested in the proposal as it will better capture the large number of mid-size entities that generate a significant portion of lighting wastes. California, after

evaluating the lamp problem, determined that a generator of less than 25 lamps per day should be considered exempt from the State's hazardous waste management requirements. The 5,000 cutoff we suggest for reporting is consistent with a yearly projection of the small quantity limit in California (i.e., 200 working days x 25 lamps per day = 5,000 lamps). In addition, lighting contractors should be allowed to maintain records for their customers.

2. Storage Requirements Storage requirements would apply at all storage locations, including generator sites, transfer facilities, off-site storage facilities, landfills, treatment facilities, and recycling facilities.

a. Spent unbroken lamps must be stored in original cartons or in specially designed lamp containers. Crushed or broken lamps must be stored in puncture-proof containers. Storage areas must have concrete pad and weather protection or,

B. Storage of unbroken lamps is limited to one year or 5,000 uncrushed lamps, whichever is exceeded first. Storage of more than 5,000 uncrushed lamps would require a storage permit. Storage of crushed lamps stored in puncture-proof containers is limited to 30,000 lamps. Storage of more than 30,000 crushed lamps requires a storage permit. These requirements ensure limited breakage of lamps through proper storage and protected storage areas. In addition, the 5,000 cutoff ensures that large quantities of unbroken lamps are not stored for long periods of time and that controlled crushing, disposal, and/or recycling can occur promptly.

3. Requirements for crushing/recycling requirements would apply to both on-site and off-site crushing including crushing at recycling facilities.

A. Crushing must safely remove and capture 90 percent or more of the mercury content of the lamps.

B. Crushing must be performed in compliance with the applicable air emission standards under the Occupational Safety and Health Act, and local air and water quality agencies.

C. Owners or operators of facilities or units engaged in crushing must keep records of the number of lamps handled if more than 20,000 lamps are processed in one year, the owner or operator must notify EPA or the applicable regulatory agency. These requirements would ensure that crushing and recycling is carried out in a safe, responsible manner. The current OSHA standard is 1 mg/10 m³, which provides safe protection from mercury emissions. The reporting requirements for crushing over 20,000 lamps is intended to capture commercial recycling/crushing establishments and large relamping projects.

4. Transportation requirements A.

All uncrushed lamps must be transported in segregated drums or boxes. B. Shipping papers must accompany all shipments of uncrushed lamps. The shipping papers must identify the generator and the intended receiving facility. C. Transporters of uncrushed lamps must record the number of lamps transported, whether lamps transported were placed in boxes or drums, and the generator and receiving facility for each shipment.

D. Transportation of uncrushed lamps must be via central hazardous waste carriers. The primary purpose of these transportation management standards are to prevent lamp breakage during transport. Segregation of uncrushed lamps combined with certified and trained haulers is the best means of preventing breakage.

5. Landfill Management Requirements A. Disposal of uncrushed lamps is prohibited. Crushed lamps must be disposed of in closed drum or containers. B. Landfills must either be lined and have a leachate collection system or must meet the performance standards in Part 258. The landfill management standards would prohibit unbroken lamps from being land disposed. This both prevents uncontrolled breakage during land disposing and helps save valuable landfill space. In addition, these management standards would provide incentives for landfill operators to use mercury-removing systems, such as BTI Systems, prior to lamp disposal.

6. Requirements for Reuse of Materials A. Facilities selling or brokering secondary lamps materials for reuse must report the volume of each end product generated, where each end product stream was sent, how long each end product stream was stored, and dollars received for each end product stream used as a substitute for a commercial product. D. Secondary, lamp materials being reused must include a:

- (1) disclosure of the mercury content and content of other metals for each lot of end product delivered to an end user or broker, or
 - (2) assurance that each lot does not exceed a specified QA level
- E. Secondary lamp materials being sold for unknown uses or heat-applied processing must: (1) have non-detectable mercury levels fit the product, as ascertained by SW- 846 method 7471 (% with a PQL of .1 ppm), or (2) be restricted to sales to users who have permitted mercury controls for their reuse applications. (3) include assurances that the mercury-contaminated material is not used in a process employing heat. F. For non-heat applied applications, the metals levels must meet the appropriate land disposal restrictions levels. The management standards for material reuse are designed to protect

against the risk of mercury exposure through product reuse while at the same time restricting the use of clean materials.

RESPONSE

The Agency appreciates the commenter's suggestions addressing the management of mercury-containing lamps. Although EPA encourages generators of spent lamps to manage their lamps in a protective manner including environmentally responsible recycling programs, the Agency does not believe the risks associated with spent lamps warrant the type of exclusion and extensive management practices suggested by the commenter.

Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., the universal waste rule is less stringent than Subtitle C management standards). Studies show that the greatest threat of mercury releases from the management of lamps is during storage and transport. Uncontrolled crushing and breaking of lamps allows mercury to be emitted into the air. The universal waste rule provides a format for controlling the management of spent lamps during storage and transport, while at the same time providing a more streamlined and less stringent set of standards than the Subtitle C management standards.

The universal waste rule ensures that mercury emissions are minimized during all stages of lamp management. The universal waste rule includes storage and packaging standards for handlers of hazardous waste lamps to ensure the proper management of spent lamps and to prevent uncontrolled and unintentional breakage during storage and transport to the recycling or treatment facility. Under the universal waste rule, destination facilities (i.e., recycling, treatment, or disposal facilities) are subject to all hazardous waste management requirements applicable to permitted or interim status hazardous waste treatment, storage, and disposal facilities. In addition, recycling operations remain subject to OSHA standards and other state or federal regulations.

The current universal waste rule prohibits universal waste handlers from treating universal wastes (40 CFR ' 273.11 and 273.31). The final rule for hazardous waste lamps retains the treatment prohibition for universal waste handlers and applies the prohibition to handlers of hazardous waste lamps. The definition of treatment under RCRA includes Any method, technique, or process...designed to change the physical, chemical, or biological character or composition of any hazardous waste, so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.® The crushing of hazardous waste lamps clearly falls within the definition of treatment under RCRA (40 CFR 260.10).

Some commenters to the proposed hazardous waste lamps rule requested that the Agency allow generators of such lamps to crush them on-site before sending them off-site for treatment or disposal. However, as explained in the preamble to the final universal waste rule (60 FR 25519),

the Agency believes that it is not appropriate to allow universal waste handlers to treat universal wastes because the handlers are not required to comply with the Subtitle C hazardous waste management standards for generators (40 CFR Part 262). These hazardous waste generators must obtain EPA identification numbers, are subject to the 90-day (or 180-day) accumulation limit, and must comply with the technical standards of 40 CFR Part 265 for storage and accumulation units. Because these standards are relatively stringent, EPA's policy is that generators may treat hazardous wastes on-site, provided that they comply with all applicable requirements of 40 CFR Part 262 for storage and accumulation of hazardous wastes.

For these reasons, the Agency is not allowing crushing of hazardous waste lamps under federal regulations. However, generators located in a state with an authorized universal waste program may be allowed to crush, universal waste lamps, if within the state authorization process the Agency determines that a state's program allowing generators to treat lamps under controlled or restricted conditions is equivalent (per RCRA ' 3006) to the federal prohibition. EPA believes that this approach both ensures protection of human health and the environment while allowing the development of state regulatory programs that include specific standards for the safe crushing of hazardous waste lamps.

The universal waste rule requires that handlers that accumulate more than 5,000 kg total universal waste at one time send a notification of their universal waste handling activities to the EPA regional office. All handlers may accumulate universal waste (regardless of volume or physical characteristics) for one year in order to accumulate quantities necessary to facilitate proper recovery, treatment, or disposal.

The universal waste rule includes a basic record keeping requirement to track waste shipments arriving at and leaving from handlers of large quantities of universal waste (i.e., one who accumulates greater than 5,000 kg total universal waste at one time). The required records may take the form of a log, invoice, manifest, bill of lading, or other shipping document and are to be maintained for three years. The Agency believes that standard business records that would normally be kept by any business will fulfill this requirement.

Today's final rule will greatly facilitate the environmentally-sound collection and the proper recycling or treatment of hazardous waste lamps. Based on the belief that less complex and less costly regulations will increase the collection of universal wastes, the Agency did not limit the universal waste system to the recycling of waste. Generators have several options with regard to waste management, but the ability to access large quantities of universal waste from central collection centers may encourage the development of safe and effective methods to recycle universal waste.

Finally, the commenter suggests that the Agency set requirements for the reuse of materials. The Agency does not have the authority under RCRA to regulate products; therefore, the request is beyond the scope of this rulemaking.

DCN FLEP-00188

COMMENTS Westinghouse Electric Corporation

SUBJECT ALTERN

COMMENT However, the conditional exclusion option does not include disposal/recycling alternatives for generators of radioactive mercury-containing lamps. These lamps should also be exempt from the hazardous waste regulations and, instead, be managed in appropriate radioactive waste management facilities. Radioactive mercury-containing lamps are generated at commercial nuclear, Department of Energy, and Department of Defense facilities during routine maintenance, decontamination, and decommissioning activities. Without this additional provision, these lamps could require unnecessary, long-term storage pending the availability of final disposal options.

RESPONSE

EPA is not promulgating a conditional exclusion for hazardous waste lamps. Rather, the Agency has determined that hazardous waste lamps meet the criteria established for designating materials as universal waste in 40 CFR ' 273.81, and therefore today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards). The hazardous waste components in radioactive hazardous waste lamps are subject to today's rulemaking.

The hazardous waste lamps that are also radioactive must be managed in compliance with the applicable standards under Subtitle C, as well as the applicable requirements under the Atomic Energy Act.

DCN FLEP-00190

COMMENTS Browning-Ferris Industries

SUBJECT ALTERN

COMMENT 6.0. Conclusion. Rather than dwell on the idiosyncrasies of the Universal Waste rule, the Agency needs to balance the over-arching benefits provided by the Green Lights program versus the risks of land disposal and treatment under subtitles C and D. As discussed above, the evidence regarding mercury contamination set forth in the preamble to the proposed rule strongly suggests that the incremental risk of landfilling mercury lamps in landfills that comply with the substantive requirements set forth under 40 CFR Part 258 is not significant. Clearly, cost-effective recycling that includes the substantial recycling of the mercury in mercury lamps is a highly desirable management option that the Agency ought to encourage. However,

at present the limited infrastructure and relatively high costs associated with mercury lamp recycling preclude this management option on a broad scale. BFI believes that the asbestos NESHAP rule (See 40 CFR Part 61) in combination with the substantive requirements of the municipal solid waste landfill rule (see 40 CFR Part 258) provides a model of a regulatory program that would be appropriate for mercury lamp disposal outside of the hazardous waste program. The asbestos NESHAP rule provides important safeguards during storage, transportation and the act of disposal. BFI believes that the kinds of safeguards required for disposal in the asbestos NESHAP rule are necessary when disposal of bulk quantities of mercury lamps is to take place. The municipal solid waste landfill rule provides a comprehensive set of requirements that would assure the safety of land disposal.

RESPONSE

The Agency appreciates the commenter's suggestion addressing the management of hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements, but also allows the Agency to set specific management standards to control potential emissions.

Today's final rule will greatly facilitate the environmentally-sound collection and the proper recycling or treatment of hazardous waste lamps. Based on the belief that less complex and less costly regulations will increase the collection of universal wastes, the Agency did not limit the universal waste management system to the recycling or land disposal of lamps. Generators have several options with regard to waste management, but the ability to access large quantities of universal waste from central collection centers may encourage the development of safe and effective methods to recycle universal waste. However, the Agency believes that management controls for hazardous waste lamps are necessary to minimize releases of mercury and other hazardous constituents to the environment during lamp storage, transport, treatment, and disposal.

Today's rule specifies that universal waste destination facilities (i.e., facilities that treat, dispose, or recycle universal waste) are subject to all applicable requirements for hazardous waste treatment, storage, and disposal facilities and must receive a RCRA permit for such activities. Hazardous waste recycling facilities that do not store hazardous wastes prior to recycling may be exempt from permitting under federal regulations (40 CFR 261.6(c)(2)). Once a hazardous waste lamp is properly treated at a Subtitle C facility and rendered a non-hazardous waste (i.e., no longer exhibits a characteristic and meets the land disposal restrictions treatment standards), the treated lamp may be disposed in a solid waste facility. However, some state solid waste regulations may impose further restrictions on certain types of solid waste landfills.

DCN FLEP-00191

COMMENTS Utility Solid Waste Activities Group

SUBJECT ALTERN

COMMENT On a related note, USWAG believes that EPA should establish a de minimis level under which light bulbs can be sent to any Subtitle D landfill, including industrial D landfills. This approach has been adopted in many states which have explicitly recognized that it is unnecessary to subject the management of small amounts of spent lamps to regulatory controls. USWAG suggests that EPA adopt a similar approach that establishes a de minimis level of 35 lamps per month per facility.

At present, however, both environmentally sound recycling and management in MSWLFs must be preserved as viable options for mercury containing lamps.

Therefore, while USWAG believes that crushing must be performed in an environmentally protective manner, there is absolutely no basis for a total prohibition on this important management practice. Crushing can take place in a closed container where it can be confirmed that OSHA PELs are met. [14] [Footnote 14: In fact, some utilities currently engage in this practice. One utility comments that as long as this type of equipment is used according to manufacturers' specifications and the waste material is properly packaged, crushed lamps should be acceptable for landfilling. Comments submitted by Wisconsin Power & Light Company to RCRA Docket (Oct. 25, 1994) (Attachment C).] [See hard copy of Comment FLEP-00191 for Attachments]. Thus, crushing of lamps should be authorized provided that the entity engaging in such operations is equipped with an adequate crusher. Furthermore, USWAG is adamantly opposed to any restriction that authorizes crushing only at recycling facilities. There is no legitimate technical or legal basis for authorizing crushing at commercial recycling facilities, while prohibiting similar conduct by generators. Provided that both types of entities are capable of performing such activities adequately -- which they are -- it would be arbitrary and capricious to authorize crushing by only recyclers, while depriving generators of the same management option. B. The Management Option of Crushing Lamps Makes Participation in Green Lights Economically Practicable As discussed above, crushing allows lighting waste generators to minimize waste volume in an

environmentally safe and efficient manner. Thus, prohibiting crushing would simply impose an unnecessary burden on generators and would complicate and impede disposal or recycling of spent lamps. In addition, requiring individual packaging or re-use of containers in which new lamps are received would drive up costs substantially and frustrate participation in Green Lights and similar programs. These concerns are borne out in the individual comments of USWAG members, who are key participants in the success of energy-efficient relamping programs. For example, one utility has explained that a prohibition on crushing may offset any cost savings produced by easier consolidation or transportation under the universal waste proposal. Another utility cautioned in its comments that "[a]llowing companies to separate and consolidate [e.g., crush] their spent lamps allows the materials to be more efficiently managed. Any prohibition on such activities drives up costs and further discourages participation in Green Lights and similar programs." Comments submitted by Union Electric Company to RCRA Docket at 2 (Oct. 27, 1994). Other utilities have expressed similar concerns. See e.g., Comments submitted by Allegheny Power System (Oct. 10, 1994); Southern Company (Sept 22, 1994); Potomac Electric Power Company (Sept 21, 1994); Georgia Power Company (Sept. 16, 1994) (Attachment C). [See hard copy of Comment FLEP-00191 for Attachments].

RESPONSE

Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than full Subtitle C management standards).

Regarding the disposal of hazardous waste lamps, today's rule specifies that universal waste destination facilities (i.e., facilities that treat, dispose, or recycle universal waste) are subject to all applicable requirements for hazardous waste treatment, storage, and disposal facilities and must receive a RCRA permit for such activities. Hazardous waste recycling facilities that do not store hazardous wastes prior to recycling may be exempt from permitting under federal regulations (40 CFR 261.6(c)(2)). However, any storage or treatment of hazardous waste prior to recycling would require a RCRA permit at destination facilities. In agreement with the commenter's suggestion, today's rule does not affect the regulatory status of generators of small volumes of hazardous waste, including households and conditionally exempt small quantity generators (CESQGs are facilities that generate less than 100 kg of hazardous waste in any given month). Household and CESQG hazardous waste lamps may continue to be disposed of at Subtitle D disposal facilities. However, the streamlined regulations will provide an incentive for these categories of generators to collect the unregulated portions of the wastestream and manage them

using the same systems developed for the regulated portion, thereby removing some hazardous waste lamps from the municipal wastestream and minimizing the amount of hazardous waste going to municipal landfills and combustors.

The current universal waste rule prohibits universal waste handlers from treating universal wastes (40 CFR ' 273.11 and 273.31). The final rule for hazardous waste lamps retains the treatment prohibition for universal waste handlers and applies the prohibition to handlers of hazardous waste lamps. The definition of treatment under RCRA includes Any method, technique, or process...designed to change the physical, chemical, or biological character or composition of any hazardous waste, so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store or dispose of; or amenable for recovery, amenable for storage, or reduced in volume. The crushing of hazardous waste lamps clearly falls within the definition of treatment under RCRA (40 CFR 260.10).

Some commenters to the proposed hazardous waste lamps rule requested that the Agency allow generators of such lamps to crush them on-site before sending them off-site for treatment or disposal. However, as explained in the preamble to the final universal waste rule (60 FR 25519), the Agency believes that it is not appropriate to allow universal waste handlers to treat universal wastes because the handlers are not required to comply with the Subtitle C hazardous waste management standards for generators (40 CFR Part 262). These hazardous waste generators must obtain EPA identification numbers, are subject to the 90-day (or 180-day) accumulation limit, and must comply with the technical standards of 40 CFR Part 265 for storage and accumulation units. Because these standards are relatively stringent, EPA's policy is that generators may treat hazardous wastes on-site, provided that they comply with all applicable requirements of 40 CFR Part 262 for storage and accumulation of hazardous wastes.

Universal waste handlers, on the other hand, are allowed a much longer accumulation time limit of one year and need not comply with specific technical standards for accumulation and storage units. Instead, they are subject only to the general performance standard of managing universal wastes in a manner that prevents releases to the environment. In addition, information available to the Agency on drum top crushing systems for lamps indicates that these units may allow significant air emissions of mercury, particularly when the units are not in operation, and emissions often may exceed the OSHA limit of 0.05 mg/m³.

For these reasons, the Agency is not allowing crushing of hazardous waste lamps under federal regulations. However, generators located in a state with an authorized universal waste program may be allowed to crush, universal waste lamps, if within the state authorization process the Agency determines that a state's program allowing generators to treat lamps under controlled or restricted conditions is equivalent (per RCRA ' 3006) to the federal prohibition. EPA believes that this approach both ensures protection of human health and the environment while allowing the development of state regulatory programs that include specific standards for the safe crushing

of hazardous waste lamps.

DCN SCSP-00200

COMMENTER Wisconsin Dept. of Natural Resources

SUBJECT ALTERN

COMMENT An additional option that EPA should consider is the legitimate reuse of a material, outside of hazardous waste regulatory requirements. While legitimate reuse is recognized as a recycling option under existing regulations, numerous difficulties exist for generators or recyclers. Allowing a material to be used in its intended manner, without hazardous waste regulation, would help the EPA and states to better implement the Resource Conservation and Recovery Act. For example, lighting retrofits generate many usable fluorescent light tubes. Existing hazardous waste rules make it difficult to legitimately reuse these lamps, such as selling them to other businesses or homeowners, without full compliance with hazardous waste generator requirements.

RESPONSE

Materials that are not determined to be spent and/or are not discarded by the generator, but are merely stored prior to being reused for the same intended purpose are not solid wastes. The final rule does not preclude generators from reusing lamps by offering the replaced lamps to another party for their intended use.

DCN FLEP-00204

COMMENTER American Lamp Recycling, Ltd.

SUBJECT ALTERN

COMMENT The Agency should clarify that it is reducing the regulatory burden on generators, under either option, for lamps managed by those facilities which meet the regulatory definition of "designated facility" under 40 CFR 260.10.

RESPONSE

Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. Under today's rule, there is no definition of "designated facility." Generators of hazardous waste lamps fall under the definition of "universal waste handler" and are subject to the streamlined management requirements finalized today. As required under the universal waste rule, destination facilities (i.e., treatment, disposal, or recycling facilities) are subject to all hazardous waste management requirements applicable to permitted or interim status hazardous waste treatment, storage, and disposal facilities.

The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards). Today's rule is expected to

result in cost reductions over Subtitle C management requirements for generators, collectors, and transporters, while ensuring that lamps are managed in an environmentally protective manner and are properly recycled or treated at Subtitle C facilities prior to disposal.

DCN FLEP-00211

COMMENTER Active Electric Supply, Inc.

SUBJECT ALTERN

COMMENT Our customers have told us if the price to process the lamps gets too high they will discontinue the use of compact fluorescents and return to using incandescent lamps. The recycling of lamps works! The EPA should act quickly to eliminate current confusion, keep paperwork to a minimum to reduce building maintenance costs, and gain the full benefits of energy-efficient lamps.

RESPONSE

Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards).

Today's final rule will greatly facilitate environmentally-sound collection and increase the proper recycling or treatment of hazardous waste lamps. The ability to access large quantities of universal waste from central collection centers may encourage the development and use of safe and effective ways to recycle universal waste.

EPA expects that the universal waste rule will encourage participation in energy-efficient lighting programs because standards are less stringent and less costly than full Subtitle C management standards. A significant number of commenters indicated that savings from reduced energy usage more than covers the cost of managing lamps as hazardous waste. The reduced management costs as a universal waste should encourage additional participation in energy-efficient lighting programs and increase recycling of lamps.

The universal waste rule includes a basic recordkeeping requirement to track waste shipments arriving at and leaving from handlers of large quantities of universal waste (i.e., one who accumulates greater than 5,000 kg total universal waste at one time). The required records may take the form of a log, invoice, manifest, bill of lading, or other shipping document and are to be maintained for three years. The Agency believes that standard business records that would normally be kept by any business will fulfill this requirement. Handlers of small quantities of universal waste are not required to maintain records.

DCN FLEP-00213

COMMENTER Consolidated Edison Company (Con Edison)

SUBJECT ALTERN

COMMENT Furthermore, Con Edison strongly supports the ability of generators of lighting wastes to engage in materials separation and consolidation (e.g. crushing of spent lamps) in an environmentally sound manner. Such activities facilitate cost-effective storage and transportation and, in our opinion, can be performed safely under appropriate conditions. Any prohibition of these activities would cause unnecessary increases in compliance costs and impede participation in Green Lights and other DSM programs.

RESPONSE

The current universal waste rule prohibits universal waste handlers from treating universal wastes (40 CFR ' 273.11 and 273.31). The final rule for hazardous waste lamps retains the treatment prohibition for universal waste handlers and applies the prohibition to handlers of hazardous waste lamps. The definition of treatment under RCRA includes Any method, technique, or process...designed to change the physical, chemical, or biological character or composition of any hazardous waste, so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.@ The crushing of hazardous waste lamps clearly falls within the definition of treatment under RCRA (40 CFR 260.10).

Some commenters to the proposed hazardous waste lamps rule requested that the Agency allow generators of such lamps to crush them on-site before sending them off-site for treatment or disposal. However, as explained in the preamble to the final universal waste rule (60 **FR** 25519), the Agency believes that it is not appropriate to allow universal waste handlers to treat universal wastes because the handlers are not required to comply with the Subtitle C hazardous waste management standards for generators (40 CFR Part 262). These hazardous waste generators must obtain EPA identification numbers, are subject to the 90-day (or 180-day) accumulation limit, and must comply with the technical standards of 40 CFR Part 265 for storage and accumulation units. Because these standards are relatively stringent, EPA's policy is that generators may treat hazardous wastes on-site, provided that they comply with all applicable requirements of 40 CFR Part 262 for storage and accumulation of hazardous wastes.

Universal waste handlers, on the other hand, are allowed a much longer accumulation time limit of one year and need not comply with specific technical standards for accumulation and storage units. Instead, they are subject only to the general performance standard of managing universal wastes in a manner that prevents releases@to the environment. In addition, information available to the Agency on drum top crushing systems for lamps indicates that these units may allow significant air emissions of mercury, particularly when the units are not in operation, and emissions often may exceed the OSHA limit of 0.05 mg/m³.

For these reasons, the Agency is not allowing crushing of hazardous waste lamps under federal

regulations. However, generators located in a state with an authorized universal waste program may be allowed to crush, universal waste lamps, if within the state authorization process the Agency determines that a state's program allowing generators to treat lamps under controlled or restricted conditions is equivalent (per RCRA ' 3006) to the federal prohibition. EPA believes that this approach both ensures protection of human health and the environment while allowing the development of state regulatory programs that include specific standards for the safe crushing of hazardous waste lamps.

DCN FLEP-00217

COMMENTS Lighting Management, Inc.

SUBJECT ALTERN

COMMENT We also believe that there should be regulations concerning the handling of small-quantities of lamps. Another issue that we need to look at is crushing the lamps. This would substantially reduce transportation and labor costs at the job site. No cardboard boxes or re-handling is required thus diminishing the potential of breaking lamps in an uncontrolled environment. Utilizing approved crushing machines will be the only practical method of handling large quantities of lamps at a customer site. The benefit of concise lamp disposal regulation will be magnified many times within the environment because this enables more companies to retrofit to new energy efficient products. The KW we remove off line will reduce mercury and other pollutants many times more than those reduced by lamps recycled.

RESPONSE

Under the universal waste system, conditionally-exempt small quantity generators (CESQGs) can choose to manage their universal waste lamps in accordance with either the CESQG regulations under 40 CFR ' 261.5 or as universal waste under Part 273 (40 CFR 273.8(a)(2)). In addition, handlers and destination facilities that mix universal waste lamps from CESQGs with other universal waste regulated under Part 273 are required to manage the combined waste as universal waste under Part 273 (40 CFR 273.8(b)). Hazardous waste lamps that are managed as universal waste under 40 CFR Part 273 do not have to be included in a facility's determination of hazardous waste generator status (40 CFR 261.5(c)(6)). Therefore, if a generator manages such lamps under the universal waste system and does not generate any other hazardous waste, that generator is not subject to other Subtitle C hazardous waste management regulations, such as the hazardous waste generator regulations in Part 262. A generator that generates more than 100 kilograms of hazardous waste in addition to universal waste lamps would be regulated as a small or large quantity hazardous waste generator and would be required to manage all hazardous wastes not included within the scope of the universal waste rule in accordance with all applicable Subtitle C hazardous waste management standards, depending on the amount of other hazardous waste generated.

The current universal waste rule prohibits universal waste handlers from treating universal wastes (40 CFR ' 273.11 and 273.31). The final rule for hazardous waste lamps retains the treatment prohibition for universal waste handlers and applies the prohibition to handlers of hazardous waste lamps. The definition of treatment under RCRA includes **A**ny method, technique, or process...designed to change the physical, chemical, or biological character or composition of any hazardous waste, so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.® The crushing of hazardous waste lamps clearly falls within the definition of treatment under RCRA (40 CFR 260.10).

Some commenters to the proposed hazardous waste lamps rule requested that the Agency allow generators of such lamps to crush them on-site before sending them off-site for treatment or disposal. However, as explained in the preamble to the final universal waste rule (60 **FR** 25519), the Agency believes that it is not appropriate to allow universal waste handlers to treat universal wastes because the handlers are not required to comply with the Subtitle C hazardous waste management standards for generators (40 CFR Part 262). These hazardous waste generators must obtain EPA identification numbers, are subject to the 90-day (or 180-day) accumulation limit, and must comply with the technical standards of 40 CFR Part 265 for storage and accumulation units. Because these standards are relatively stringent, EPA's policy is that generators may treat hazardous wastes on-site, provided that they comply with all applicable requirements of 40 CFR Part 262 for storage and accumulation of hazardous wastes.

Universal waste handlers, on the other hand, are allowed a much longer accumulation time limit of one year and need not comply with specific technical standards for accumulation and storage units. Instead, they are subject only to the general performance standard of managing universal wastes in a manner **A**that prevents releases®to the environment. In addition, information available to the Agency on drum top crushing systems for lamps indicates that these units may allow significant air emissions of mercury, particularly when the units are not in operation, and emissions often may exceed the OSHA limit of 0.05 mg/m³.

For these reasons, the Agency is not allowing crushing of hazardous waste lamps under federal regulations. However, generators located in a state with an authorized universal waste program may be allowed to crush, universal waste lamps, if within the state authorization process the Agency determines that a state's program allowing generators to treat lamps under controlled or restricted conditions is equivalent (per RCRA ' 3006) to the federal prohibition. EPA believes that this approach both ensures protection of human health and the environment while allowing for the development of state regulatory programs that include specific standards for the safe crushing of hazardous waste lamps.

DCN FLEP-00225
COMMENTER Imperial Lighting Maintenance Company

SUBJECT ALTERN

COMMENT a secondary goal of the Universal Waste Rule appears to be to encourage the recycling of mercury containing fluorescent lamps.

While this is an admirable goal, in our opinion, the EPA's regulation of lamp disposal should assure that there are a variety of viable alternatives in place for the disposition of spent lamps, at least until a national recycling program is set up.

RESPONSE

Today's final rule encourages hazardous waste lamp recycling but does not exclude other management options. By adding hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273, today's rule allows spent lamps to be managed in any way consistent with those regulations, including disposal at permitted (or interim status) Subtitle C (hazardous waste) treatment, storage, and disposal facilities.

DCN FLEP-00229

COMMENTER Global Recycling Technologies, Inc.

SUBJECT ALTERN

COMMENT 3. Special management is necessary to keep lamps from being incinerated at MWC and WTE facilities lacking mercury controls.

ISSUES At issue here is the safety of human health and the environment. The dangers of mercury are widely known. Continued disposal of mercury-containing lamps in the MSW stream is the least preferred method of disposal. In order to eliminate this waste from reaching municipal waste combustors or waste to energy facilities, segregated management would be required. To allow landfill of these lamps when data on leachate is inconclusive at best, would seem counterproductive. Allowing landfill would also set a precedent for special exclusions for other RCRA hazardous wastes, and could initiate similar requests from other industries. What is clear is that mercury release from broken lamps presents immediate danger to human health and the environment.

RESPONSE

EPA agrees with the commenter and thus, has not promulgated a conditional exclusion for lamps. Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than full Subtitle C management standards). Today's rule specifies that universal waste destination facilities (i.e., facilities that treat, dispose, or recycle universal waste) are subject to all applicable requirements for hazardous waste treatment, storage, and disposal facilities and must receive a RCRA permit for such activities. Hazardous waste

recycling facilities that do not store hazardous wastes prior to recycling may be exempt from permitting under federal regulations (40 CFR 261.6(c)(2)). In addition, EPA believes that the streamlined requirements of the universal waste program will result in more spent lamps being recycled. Therefore, today's rule should result in a reduction in the volume of hazardous waste lamps entering the municipal solid waste stream, thereby reducing the numbers of lamps going to municipal combustors and decreasing the potential for lamps to be crushed and/or broken in uncontrolled environments during storage and transport (e.g., dumpsters and garbage trucks).

DCN FLEP-00236

COMMENTS Conservation Lighting, Inc.

SUBJECT ALTERN

COMMENT However, we believe that controls on the recycling process itself and on the quality and use of reclaimed products is necessary. Again, as significant handlers of this waste stream, we remain responsible for its downstream management and would like to have some assurance that recycling and reuse practices are safe. We recommend that controls be imposed on air emissions of mercury during the recycling process and that the OSHA workplace standard for mercury be applied. We also believe that the levels of mercury allowed in materials recovered from lamps be strictly limited to avoid unsafe exposures from downstream reuse processes involving heat, which could cause any mercury contained in the materials to be released.

RESPONSE

The Agency appreciates the commenter's suggestions for standards for recycling facilities. The Agency is not addressing mercury reclamation processes under the scope of this rulemaking. Recycling facilities remain exempt from the federal hazardous waste regulations under ' 261.6(c); however, any storage or treatment prior to recycling would require a RCRA permit at destination facilities. In addition, states may have more stringent regulations for mercury reclamation facilities.

The universal waste rule ensures that mercury emissions are minimized during all stages of waste lamp management. The universal waste rule includes storage and packaging standards for handlers of hazardous waste lamps to ensure the proper management of spent lamps and to prevent uncontrolled and unintentional breakage during storage and transport to the recycling or treatment facility. Under the universal waste rule, destination facilities (i.e., treatment, disposal, or recycling facilities) are subject to all hazardous waste management requirements applicable to permitted or interim status hazardous waste treatment, storage, and disposal facilities. Although the destination facilities are subject to these hazardous waste management requirements for treatment and storage activities, the Agency does not regulate the specific process of mercury reclamation. EPA believes that with adequate state oversight, hazardous waste lamps can be safely recycled and the mercury reclaimed. In addition, the Agency believes that recycling

facilities will guard against excessive mercury emissions since it is in the recycling facility's best economical interest to strive to limit mercury releases since mercury is essentially the product of the recovery process. The Agency notes, however, that today's rule does not exempt lamp recycling facilities from any applicable OSHA workplace standards or Clean Air Act emission standards.

DCN FLEP-00237

COMMENTS Sherry L. Schilling

SUBJECT ALTERN

COMMENT I would strongly urge the EPA to adopt some form of mercury containing lamp management. I would support a compromised version of lamp management or a possible test pilot program, anything but absolute exclusion of these waste lamps. Data indicates these lamps are toxic 4 to 8 times the allowable limit 99 percent of the time.

RESPONSE

The Agency agrees with the commenter's concern regarding an exclusion for the hazardous waste lamps and therefore, did not promulgate the conditional exclusion. Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards). The universal waste rule provides a format for controlling the management of spent lamps during storage and transport. The universal waste rule is expected to result in cost reductions over Subtitle C management requirements for generators, collectors, and transporters, yet it ensures that lamps are managed in an environmentally protective manner and are properly recycled or treated at Subtitle C facilities prior to disposal. Fewer hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and decreasing the potential for lamps to be crushed and/or broken in uncontrolled environments during storage and transport (e.g., dumpsters and garbage trucks).

DCN FLEP-00243

COMMENTS Recycling Advocates of Middle Tennessee

SUBJECT ALTERN

COMMENT The EPA notes a correlation between lamp recycling businesses and management regulations. The object of EPA regulations should be this: Make it convenient to recycle properly and contain any inadvertent Hg spillage, but don't cut any corners on disposal regulations. Protect whistle blowers.

RESPONSE

The Agency agrees with the commenter's view on the goals of the hazardous waste lamp regulations. Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The streamlined requirements of the universal waste program are

expected to result in more spent lamps being recycled. Today's rule requires universal waste handlers to manage universal waste lamps in a way that prevents releases of the lamps or the components of the lamps to the environment. In addition the final rule specifies that universal waste destination facilities (i.e., facilities that treat, dispose, or recycle universal waste) are subject to all applicable requirements for hazardous waste treatment, storage, and disposal facilities and must receive a RCRA permit for such activities. Hazardous waste recycling facilities that do not store hazardous wastes prior to recycling may be exempt from permitting under federal regulations (40 CFR 261.6(c)(2)); however, any storage or treatment prior to recycling would require a RCRA permit at destination facilities.

DCN FLEP-00246

COMMENTER Efficient Lighting and Maintenance, Inc.

SUBJECT ALTERN

COMMENT Efficient Lighting sees the need for a uniform national lamp disposal program. The World's environment and the people in it need to be protected from hazardous waste. There should be a variety of safe plans that will meet environmental needs and can be implemented cost effectively. As a small lighting maintenance company we do not have the time, money, or manpower to be bogged down with excessive paperwork or lamp handling.

RESPONSE

Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than Subtitle C management standards). The universal waste rule provides a format for controlling the management of spent lamps during storage and transport. The universal waste rule is expected to result in cost reductions over Subtitle C management requirements for generators, collectors, and transporters, yet it ensures that lamps are managed in an environmentally protective manner and are properly recycled or treated at Subtitle C facilities prior to disposal. Fewer hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and decreasing the potential for lamps to be crushed and/or broken in uncontrolled environments during storage and transport (e.g., dumpsters and garbage trucks).

This final rule provides a uniform approach for the management of hazardous waste lamps at the federal level; however, individual states may have more stringent requirements for the management of this waste. Today's rule becomes effective only in states that are not authorized for the federal Subtitle C hazardous waste program, but will not be immediately effective in authorized states since the requirements are not promulgated pursuant to HSWA. These requirements will not be effective in authorized states until such states revise their solid waste management programs to adopt equivalent requirements. EPA strongly encourages states to adopt today's final rulemaking that adds hazardous waste lamps to the federal universal waste rule program not only to achieve the most benefit from the universal waste program but also to reduce

the complexity of interstate transportation of these universal wastes.

DCN FLEP-00250

COMMENTS International Assn. of Lighting Man. Co.

SUBJECT ALTERN

COMMENT Environmentally sound and cost-effective recycling of mercury-containing lamps is supported by NALMCO. However, to protect our member companies from the liabilities associated with being generators, we believe that strict controls must be placed on the recycling process and quality of the reclaimed products. These controls should include regulation of all emissions of mercury during the process and that OSHA workplace standards for mercury be applied. Materials recovered from lamps must be strictly monitored for mercury content. The amount must be very limited to avoid unsafe exposures from reuse processes involving heat which could cause any mercury contained in the materials to be released.

RESPONSE

The Agency appreciates the commenter's concern pertaining to the management of lamps during the recycling process. Although EPA encourages generators of spent lamps to manage their lamps in a protective manner including environmentally responsible recycling programs, the Agency does not believe that the risks associated with spent lamps warrant further controls on mercury reclamation processes under RCRA. Also, the Agency does not have the authority under RCRA to regulate reclaimed products, therefore the commenter's request for controls on materials recovered from lamps and is used in products beyond the scope of this rulemaking.

The universal waste rule ensures that mercury emissions are minimized during all stages of lamp management. The universal waste rule includes storage and packaging standards for handlers of hazardous waste lamps to ensure the proper management of spent lamps and to prevent uncontrolled and unintentional breakage during storage and transport to the recycling or treatment facility. Under the universal waste rule, destination facilities (i.e., treatment, disposal, or recycling facilities) are subject to all hazardous waste management requirements applicable to permitted or interim status hazardous waste treatment, storage, and disposal facilities. Although the destination facilities are subject to these hazardous waste management requirements for treatment and storage activities, the Agency does not regulate the specific process of mercury reclamation. EPA believes that with adequate state oversight, hazardous waste lamps can be safely recycled and the mercury reclaimed. In addition, the Agency believes that recycling facilities will guard against excessive mercury emissions since it is in the recycling facility's best economical interest to strive to limit mercury releases since mercury is essentially the product of the recovery process. The Agency notes, however, that today's rule does not exempt lamp recycling facilities from any applicable OSHA workplace standards or Clean Air Act emission standards.

DCN FLEP-00257

COMMENTS Tri-County Lighting Services, Inc.

SUBJECT ALTERN

COMMENTS Tri-County Lighting Services feels that a practical approach to lamp disposal would involve taking lamps to central location(s), located in larger cities, then crushing of materials with proper controls, being able to separate mercury from the lamps and storing the remains in steel drums. This process would also include the storage of such lamps on generators site for a reasonable time frame. Tri-County Lighting Services, Inc. does not have the facilities for the storage of large quantities of lamps as do many others. If storage prior to the central location becomes a problem, we could consider crushing lamps on generator's site, then transportation to proper disposal facilities. We believe that cost-effective recycling of mercury containing lamps is a very important issue. However, we feel that controls on the recycling process itself and the quality of disposal requires some thought. Due to the direction society has taken, unfortunately, there needs to be a deposit placed on mercury containing lamps, beginning with the manufacturers. These lamps would ultimately be returned just as aluminum cans are properly disposed. Tri-County Lighting Services, Inc. is convinced that we need to take large quantities of lamps to a crushing site, to be recycled also, put a dollar amount to it and this would make all parties involved more conscientious of spent mercury containing lamps because there would be a financial reward. This would also make the proper disposal of these lamps move more quickly. There are two benefits achieved in this process: First, this would expedite the proper handling of lamps, while saving on energy consumption by applying the recycling process, finally benefitting our environment; Second, Everyone who properly disposes of these lamps will receive handling reimbursements. Presently, we have experienced very high resistance from customers as far as paying a disposal fee, and if a deposit fee was mandatory, they would have no choice. Customers are well-aware of disposing of small quantities of lamps on site is within EPA regulations, consequent to any changes for disposal, and creating the deposit fee would eliminate this situation. Failing the deposit concept, crushing of lamps on generators site and returning for proper disposal would be the succeeding choice of action to be taken. We also anticipate that by having this deposit set in motion,

Conditional Exclusion may not be necessary. Implementing a mandatory deposit will be a benefit to all by preserving the environment and everyone involved will be reimbursed.

RESPONSE

The Agency appreciates the commenter's suggestions for hazardous waste lamp management. Although EPA encourages generators of spent lamps to manage their lamps in a protective manner including environmentally responsible recycling programs, the Agency does not believe that the risks associated with spent lamps warrant a mandatory deposit/fee system at the federal level for hazardous waste lamp disposal or recycling.

The current universal waste rule prohibits universal waste handlers from treating universal wastes (40 CFR ' 273.11 and 273.31). The final rule for hazardous waste lamps retains the treatment prohibition for universal waste handlers and applies the prohibition to handlers of hazardous waste lamps. The definition of treatment under RCRA includes Any method, technique, or process...designed to change the physical, chemical, or biological character or composition of any hazardous waste, so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.@ The crushing of hazardous waste lamps clearly falls within the definition of treatment under RCRA (40 CFR 260.10).

Some commenters to the proposed hazardous waste lamps rule requested that the Agency allow generators of such lamps to crush them on-site before sending them off-site for treatment or disposal. However, as explained in the preamble to the final universal waste rule (60 **FR** 25519), the Agency believes that it is not appropriate to allow universal waste handlers to treat universal wastes because the handlers are not required to comply with the Subtitle C hazardous waste management standards for generators (40 CFR Part 262). These hazardous waste generators must obtain EPA identification numbers, are subject to the 90-day (or 180-day) accumulation limit, and must comply with the technical standards of 40 CFR Part 265 for storage and accumulation units. Because these standards are relatively stringent, EPA's policy is that generators may treat hazardous wastes on-site, provided that they comply with all applicable requirements of 40 CFR Part 262 for storage and accumulation of hazardous wastes.

Universal waste handlers, on the other hand, are allowed a much longer accumulation time limit of one year and need not comply with specific technical standards for accumulation and storage units. Instead, they are subject only to the general performance standard of managing universal wastes in a manner that prevents releases@to the environment. In addition, information available to the Agency on drum top crushing systems for lamps indicates that these units may allow significant air emissions of mercury, particularly when the units are not in operation, and emissions often may exceed the OSHA limit of 0.05 mg/m³.

For these reasons, the Agency is not allowing crushing of hazardous waste lamps under federal

regulations. However, generators located in a state with an authorized universal waste program may be allowed to crush, universal waste lamps, if within the state authorization process the Agency determines that a state's program allowing generators to treat lamps under controlled or restricted conditions is equivalent (per RCRA ' 3006) to the federal prohibition. EPA believes that this approach both ensures protection of human health and the environment while allowing the development of state regulatory programs that include specific standards for the safe crushing of hazardous waste lamps.

DCN FLEP-00259

COMMENTER Cherry City Electric, Inc.

SUBJECT ALTERN

COMMENT Recommendations from the National Electrical Manufacturer's Association included the Best Management Practices. Adoption of this proposal will allow crushing on-site following OSHA standards thereby reducing storage space (crushing reduces the volume by, 90%), handling costs and associated risks, plus reduces the costs of transportation. The NEMA recommendation will set standards on reclaimed materials, defining the end-uses to be protective and protecting generators from liability.

RESPONSE

One goal of the proposed rule was to develop a management approach for hazardous waste lamps that reduces the regulatory burden of managing spent lamps while minimizing mercury releases to the environment. The current universal waste rule prohibits universal waste handlers from treating universal wastes (40 CFR ' 273.11 and 273.31). The final rule for hazardous waste lamps retains the treatment prohibition for universal waste handlers and applies the prohibition to handlers of hazardous waste lamps. The definition of treatment under RCRA includes Any method, technique, or process...designed to change the physical, chemical, or biological character or composition of any hazardous waste, so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.® The crushing of hazardous waste lamps clearly falls within the definition of treatment under RCRA (40 CFR 260.10).

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requirements of 40 CFR Part 262 for storage and accumulation of hazardous wastes.

Universal waste handlers, on the other hand, are allowed a much longer accumulation time limit of one year and need not comply with specific technical standards for accumulation and storage units. Instead, they are subject only to the general performance standard of managing universal wastes in a manner that prevents releases to the environment. In addition, information available to the Agency on drum top crushing systems for lamps indicates that these units may allow significant air emissions of mercury, particularly when the units are not in operation, and emissions often may exceed the OSHA limit of 0.05 mg/m³.

For these reasons, the Agency is not allowing crushing of hazardous waste lamps under federal regulations. However, generators located in a state with an authorized universal waste program may be allowed to crush, universal waste lamps, if within the state authorization process the Agency determines that a state's program allowing generators to treat lamps under controlled or restricted conditions is equivalent (per RCRA ' 3006) to the federal prohibition. EPA believes that this approach both ensures protection of human health and the environment while allowing the development of state regulatory programs that include specific standards for the safe crushing of hazardous waste lamps.

In addition, the Agency does not have authority under RCRA to regulate reclaimed products (except those used in a manner constituting disposal); therefore, the commenter's request for controls on materials recovered from lamps and used in products is beyond the scope of this rulemaking.

DCN FLEP-00293

COMMENTER American Airlines, Inc.

SUBJECT ALTERN

COMMENT American believes it may be feasible to require manufactures to package MCLs [mercury-containing lamps] in inexpensive reseal able packaging (e.g. plastic, cardboard, etc.). Provided their other nonhazardous waste is sent to an approved landfill, generators should be allowed to replace the spent bulbs in the packaging and dispose of the lamps with their other nonhazardous waste. If a generator's hauler does not deliver all nonhazardous waste to an approved landfill, the generator would have to arrange a special shipment to an approved landfill or recycler, or have the waste collected by the supplier for recycling. American also believes that lamp manufacturers should be required to test their lamps to determine whether they would be classified as a hazardous waste under RCRA. Those lamps which regularly do not test hazardous could be labeled as such (on the bulb itself, as well as on the packaging). This would encourage

manufacturers to develop bulbs which are nonhazardous and would allow purchasers to make informed decisions when buying lamps. American also believes that EPA should investigate implementing a program which would require manufacturers, wholesalers and distributors to accept return of spent lamps for recycling. EPA should also investigate whether a deposit system (such as those used for soda bottles, aluminum cans, etc) would be beneficial in promoting recycling over disposal in landfills. Finally, American urges EPA to extend disposal options to include permitted industrial waste landfills and to provide research funding to promote the development of more environmentally friendly lighting devices.

In the event lamps disposed with the remainder of a generator's nonhazardous wastes create unacceptable emissions of mercury to the environment, several alternatives could be made available.

First, manufacturers could be required to offer MCLs in resealable plastic, cardboard or other packaging. When the lamps are spent, they could be replaced in their original container and either disposed in the regular nonhazardous waste stream or accumulated for special shipment to an MSW or recycling facility. Suppliers could charge a deposit for the packaging and/or the bulbs to promote recycling. In the event the bulbs are not recycled, they could be disposed with the normal nonhazardous waste stream provided they are resealed in the original container and provided the waste hauler delivers the waste to an appropriate landfill. EPA could prohibit disposal of MCLs with the generator's other nonhazardous wastes if the lamps are not resealed in their original (or replacement) container or if the waste hauler indicates it cannot accept MCLs for disposal.

EPA should also consider market-based incentives to assist in the reduction of MCLs in landfills and to encourage recycling. Manufacturers should be required to test their lamps to determine if they should be classified as hazardous. If a manufacturer's bulbs are found to be consistently nonhazardous, they could be labeled as such. This would encourage lamp customers to purchase the more environmentally friendly lamps. In addition, manufacturers, wholesalers and distributors could be required to collect spent lamps for recycling. Another method for reducing the amount of MCLs disposed in landfills and to promote recycling would be to require a deposit on all MCLs and/or their containers. This program would be similar to the

deposit requirements for soda bottles and aluminum cans in some states. If a generator were to dispose of its lamps in a landfill, it could lose a significant amount of money because it would forfeit the deposit. By recycling the bulbs and packaging, the generator could save significant amounts of money and would thus be encouraged to recycle.

RESPONSE

The Agency appreciates the commenter's suggestions concerning the management of hazardous waste lamps. EPA cannot address manufacturer product testing and notification under the statutory authority of RCRA, therefore the commenter's request for manufacturer notification is beyond the scope of this rulemaking.

Although EPA encourages generators of spent lamps to manage their lamps in a protective manner including environmentally responsible recycling programs, the Agency does not believe that the risks associated with spent lamps warrant a mandatory deposit/fee system at the federal level for hazardous waste lamp disposal or recycling, or other mandatory recycling requirements.

Today's final rule adds hazardous waste lamps to the universal waste regulation under 40 CFR Part 273. Regarding the disposal of hazardous waste lamps, today's rule specifies that universal waste destination facilities (i.e., facilities that treat, dispose, or recycle universal waste) are subject to all applicable requirements for hazardous waste treatment, storage, and disposal facilities and must receive a RCRA permit for such activities. Hazardous waste recycling facilities that do not store hazardous wastes prior to recycling may be exempt from permitting under federal regulations (40 CFR 261.6(c)(2)). Today's final rule does not allow the disposal of hazardous waste lamps at industrial (non-hazardous) waste landfills. However, today's rule does not affect the regulatory status of generators of small volumes of hazardous waste, including households and conditionally exempt small quantity generators (CESQGs are facilities that generate less than 100 kg of hazardous waste in any given month). Household and CESQG hazardous waste lamps may continue to be disposed of at Subtitle D disposal facilities. However, the streamlined regulations will provide an incentive for these categories of generators to collect the unregulated portions of the wastestream and manage them using the same systems developed for the regulated portion, thereby removing hazardous waste lamps from the municipal wastestream and minimizing the amount of hazardous constituents going to municipal landfills and combustors.

DCN FLEP-00294

COMMENTS El Paso Natural Gas Company

SUBJECT ALTERN

COMMENT Determination of Generator Status Under Conditional Exclusion

The conditional exclusion option will take management of mercury-containing lamps outside of the hazardous waste management system as discussed under section IV Management Options of the preamble (59 FR 38293) by conditionally excluding

spent mercury-containing lamps from the definition of hazardous wastes. Since mercury-containing lamps will be managed outside the hazardous waste management system under this conditional exclusion, these spent lamps should not be counted in determining generator status for managing hazardous waste. El Paso recommends that mercury-containing lamps, if managed under the conditional exclusion, not be counted toward determining a generator's hazardous waste status for managing hazardous waste.

RESPONSE

EPA decided not to promulgate a conditional exclusion for hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than full Subtitle C management standards).

Spent lamps that exhibit any of the hazardous waste characteristics are subject to today's rulemaking. If a facility manages hazardous waste lamps under the universal waste rule system and does not generate any other hazardous waste, the facility will not be subject to other parts of the Subtitle C regulations such as the hazardous waste generator regulations in Part 262 and the lamps are not counted towards a facility's generator status. In addition, today's final rule does not affect the regulatory status of conditionally exempt small quantity generators (CESQGs), which are generators that produce less than 100 kg of hazardous waste per month. CESQGs continue to be conditionally exempt from full Subtitle C regulation provided that the provisions under ' 261.5 are met.

DCN FLEP-00296

COMMENTS State of Ohio EPA

SUBJECT ALTERN

COMMENT Lamps destined for recycling are not regulated as hazardous waste in Ohio. We do not believe that lamps meet the definition of "spent material" stated in Part 261.1 (1) because used lamps are not contaminated during their use. Instead, lamps become used or defective primarily because electrodes lose their ability to generate sufficient quantities of electrons to sustain the lighting process. Page 2 (Section 1) of Management of Used Fluorescent Lamps; Preliminary Risk Assessment states: "The lifetime of the lamp is determined by the cathodes, which gradually lose their electron-producing coating as the lamp is operated." With respect to the categories in Table 1 of Part 261.2, we feel that used lamps exhibiting a hazardous characteristic more closely meet the definition of by-product. Used in a broad context, we consider unused or off-specification lamps to more closely fit the criteria of commercial chemical

product. The U.S. EPA clarified that commercial chemicals products not only include U- and P-listed hazardous waste but also certain chemical products exhibiting a hazardous characteristic. Therefore, unused or used lamps exhibiting a hazardous characteristic are not considered hazardous waste in Ohio if they are recycled and are not subject to hazardous waste requirements because they are either characteristic byproducts or commercial chemical products which are being reclaimed. Companies gathering information on state regulations that are considering constructing a facility for recycling lamps often find Ohio attractive as a potential site because of its regulations and viable market.

RESPONSE

The Agency does not agree with the commenter's reasoning for categorizing used lamps that are recycled as characteristic byproducts or commercial chemical products. Lamps that are used and discarded because they can no longer be used for their intended purpose are spent materials and are hazardous wastes if they exhibit a hazardous waste characteristic. EPA agrees with the commenter that unused lamps are commercial chemical products.

Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than full Subtitle C management standards). It should be noted that a handler can choose to handle all lamps (whether hazardous or not) under the universal waste system.

DCN FLEP-00297

COMMENTS Florida Dept. of Environ. Protection

SUBJECT ALTERN

COMMENT CONCLUSION In conclusion, the Department supports the Universal Waste System Option Proposed by the EPA with the above qualifications. In addition to Promulgating such a rule, however, it is recommended that the EPA also take action to encourage the development of recycling markets for the recovered mercury. As has been done for paper and other recyclables, encouraging the purchase of fluorescent or HID lamps containing a certain percentage of recycled mercury through government procurement standards should be initiated. By helping to create closed loop recycling markets for the recovered mercury from MCLs and MCDs, we can reduce the potential for mismanagement of the recovered mercury either in or out of the U.S. and help ensure that it does not contribute to the global or regional mercury burdens.

RESPONSE

To date, the Agency has no information on manufacturers of hazardous waste lamps made with recycled mercury. Therefore, the Agency has not considered adding fluorescent lamps made from recycled/recovered mercury as a designated item under the federal procurement guidelines. Should such information on the manufacture of fluorescent lamps from recovered mercury become available to EPA, the Agency may consider evaluating this product for inclusion on the list of designated items at a future date.

Today's final rule will facilitate the environmentally-sound collection and the proper recycling or treatment of hazardous waste lamps. Based on the belief that less complex and less costly regulations will increase the collection of universal wastes, the Agency did not limit the universal waste system to the recycling of waste. Generators have several options with regard to waste management, but the ability to access large quantities of universal waste from central collection centers may encourage the development of safe and effective methods to recycle universal waste.

DCN FLEP-00298

COMMENTS New York Power Authority

SUBJECT ALTERN

COMMENT Last, but not least we are seriously concerned about the fact that even if mercury containing lighting waste could be landfilled under RCRA, the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA") or Superfund liability is still a foreseeable possibility. In an extensive review of the proposed rule at hand NYPA concluded that CERCLA liability would technically override any relief offered under RCRA. In the case at hand we are facing conflicting regulation under RCRA and CERCLA. It is our opinion that, the overriding CERCLA liability of multi-million dollar remediation and litigation costs renders the RCRA hazardous waste exemption meaningless. We are anxious to avoid all possible Superfund liability and would opt for higher priced recycling disposal methods, of mercury containing lighting waste as long as CERCLA liability is foreseeable. EPA has decided that it is adequate to grant a household exemption to batteries and thermometers, that account for more than 95% of mercury contamination in landfills under CERCLA. Even though, lighting waste mercury content is minimal compared to the exempted materials NYPA could theoretically be liable for the full clean-up cost and suffer irreparable damage to its image as an environmentally responsible corporate citizen. We are not prepared to risk the reputation we have worked so hard to maintain and under the options presented by EPA at this time loss of goodwill as well as dollars is a distinct possibility.

We, therefore, urge EPA to review CERCLA in the context of proposed RCRA regulation and to adopt a synchronized approach under both statutes for the disposal of lighting waste that encourages efficient lighting programs in a cost-effective manner.

RESPONSE

The Agency notes that generators of waste can be held liable for releases of hazardous substances from their waste under CERCLA regardless of the regulatory status of the waste. In addition, liability for waste contamination is a statutory provision. EPA does not have the authority to amend the liability status of generators under RCRA or CERCLA. Proper management of spent lamps under the universal waste program may limit a generator's liability under CERCLA since proper management will minimize releases and thus, potential contamination. However, it is still the generator's responsibility to ensure his waste is ultimately treated and disposed or recycled properly.

DCN FLEP-00307

COMMENTER Associated Industries of Massachusetts

SUBJECT ALTERN

COMMENT It must be pointed out that a third option does exist. Adopting both of these rule[s] changes and allowing specific industries to decide which of the two is more appropriate is a viable third alternative. The flexibility created by adopting both options could be significantly valuable in the management and disposal of mercury-containing lamps.

RESPONSE

The Agency appreciates the commenter's support of the proposed rule to reduce the regulatory requirements for hazardous waste lamp management; however, the Agency has decided not to promulgate a conditional exclusion. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than full Subtitle C management standards). The universal waste rule provides a consistent format for controlling the management of spent lamps during storage and transport. The universal waste rule is expected to result in cost reductions over Subtitle C management requirements for generators, collectors, and transporters, yet it ensures that lamps are managed in an environmentally protective manner and are properly recycled or treated at Subtitle C facilities prior to disposal. Fewer hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and decreasing the potential for lamps to be crushed and/or broken in uncontrolled environments during storage and transport (e.g., dumpsters and garbage trucks).

Today's final rule may reduce much of the current confusion over the regulatory status of spent lamps, at least at the federal level; however, individual states may have more stringent

requirements for the management of this waste. Today's rule becomes effective in states that are not authorized for the federal Subtitle C hazardous waste program, but will not be immediately effective in authorized states since the requirements are not promulgated pursuant to HSWA. These requirements will not be effective in authorized states until such states revise their solid waste management programs to adopt equivalent requirements. EPA strongly encourages them to adopt today's final rulemaking that adds hazardous waste lamps to the federal universal waste rule program not only to achieve the most benefit from the universal waste program but also to reduce the complexity of interstate transportation of these universal wastes.

DCN FLEP-L0008

COMMENTS Duke Power Company

SUBJECT ALTERN

COMMENT Therefore, I am writing to express Duke Power's strong support for a FULL exclusion to be set forth in the proposal, which would include disposal in non-municipal, solid waste, Subtitle D disposal facilities. The record evidence makes it clear that the management of lamps under the above management conditions will be fully protective of human health and the environment. Equally important, implementation of the full exclusion will have the additional environmental benefit of removing the regulatory barriers to participating more fully in Green Lights and other demand side management programs. In short, we applaud EPA for its initiatives to remove the regulatory disincentives to engaging in energy-efficient relamping projects. We have carefully analyzed the proposed lighting waste proposal and are convinced that a FULL exclusion is warranted and necessary to remove these disincentives in a manner that will yield the greatest environmental benefit and that is fully protective of human health and the environment.

RESPONSE

EPA has decided not to promulgate a conditional exclusion at this time, because it is not adequate to protect human health and the environment. Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. By removing some of the barriers to Subtitle C management for lamps, the universal waste approach should minimize concerns about decreased participation in energy-efficient lighting programs by simplifying and clarifying the requirements for hazardous waste lamp collection while maintaining Subtitle C control over final treatment and disposal (or recycling) for these lamps. Management costs under the universal waste approach will be lower than full Subtitle C management because hazardous waste transporters and manifests are not required for lamp shipments between hazardous waste lamp handlers and disposal or recycling facilities. Such an approach should help in assuring that the substantial environmental benefits offered by energy-efficient lighting programs are realized through increased participation.

DCN SCSP-L0009

COMMENTER National Electric Manufacturers Assn.

SUBJECT ALTERN

COMMENT This recommendation is based on data analyses showing that lamps can be safely managed outside of the RCRA, Subtitle C system in both quality solid waste landfill and quality recycling/reclamation facilities. NEMA believes that, at the present time, it is critical that both of these options be available. While some quality, licensed recycling/reclamation facilities are operational, the available capacity which these facilities can manage represent only a small percentage of the total annual quantity of spent lamps. While this situation may change in the future, lamp users need a solution immediately.

RESPONSE

EPA decided against a conditional exclusion for hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than full Subtitle C management standards). Regarding the disposal of hazardous waste lamps, today's rule specifies that universal waste destination facilities (i.e., facilities that treat, dispose, or recycle universal waste) are subject to all applicable Subtitle C requirements for hazardous waste treatment, storage, and disposal facilities and must receive a RCRA permit for such activities. Hazardous waste recycling facilities that do not store hazardous wastes prior to recycling may be exempt from permitting under federal regulations (40 CFR 261.6(c)(2)). However, today's rule does not affect the regulatory status of generators of small volumes of spent lamps, including households and conditionally exempt small quantity generators (CESQGs are facilities that generates less than 100 kg of hazardous waste in any given month). Household and CESQG hazardous waste lamps may continue to be disposed of at Subtitle D disposal facilities. However, the streamlined regulations will provide an incentive for these categories of generators to collect the unregulated portions of the wastestream and manage them using the same systems developed for the regulated portion, thereby removing hazardous waste lamps from the municipal wastestream and minimizing the amount of hazardous waste going to municipal landfills and combustors.

DCN FLEP-L0013

COMMENTER Osram Sylvania

SUBJECT ALTERN

COMMENT It would therefore make sense to create a special category for this waste stream to deal with the real issues, independent of TCLP. Whether this is described as a Special Waste or a Conditional Exclusion with Best Management Practices, or a more flexible version of the Universal Waste Rule, is not important.

RESPONSE

The Agency appreciates the commenter's suggestions for hazardous waste lamp management. The Agency does not believe that the risks associated with spent lamps warrant a special waste category designation for hazardous waste lamps.

Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than full Subtitle C management standards).

DCN FLEP-L0014

COMMENTS General Electric

SUBJECT ALTERN

COMMENT In the meeting we offered three recommendations for moving the lamp issue forward: 1. EPA Issues a Temporary Exclusion With Best Management Practices Expiring Five Years After Promulgation (e.g., 2001). We have suggested in an attachment a modification of the BMPs provided. In NEMA's comments on the lamp rule. [See hard copy of Comment FLEP-L0014 for attachment.] This in modification would pare down the list of BMPs to focus on those practices that are most important in reducing unintended mercury releases. The remainder of the BMPs can be placed in a guidance document which States can use in permitting or approving individual facilities that will manage lamps. 2. EPA Implements a TCLP Correlation Test To Be Effective After Exclusion Expires. GE Lighting and other manufacturers would provide sufficient testing information to evaluate those levels of mercury placed in now lamps that result in the lamps substantially passing the TCLP upon the end of their useful life. EPA would then issue a simple correlation test based on those levels placed into new lamps at the time the exclusion expires. Both manufacturers and customers would know, at the time of manufacturing, whether their spent lamps would require hazardous waste classification. The correlation test would serve as an alternative to the TCLP. Manufacturers or customers could continue to use TCLP if they preferred. 3. EPA Would Clarify Issues for States Choosing to Implement Universal Waste. We see three important areas where EPA guidance is needed to States choosing to add lamps to their universal waste programs: A. Provide general guidance to states on adding lamps to Universal Waste to promote consistency. This would include the following types of items: 1. Whether lamp storage is allowed at recycling facilities without a permit. 2. Whether recycling facilities that trap mercury in phosphor or

carbon filters for later recovery at an off-site facility are recycling facilities or treatment facilities. 3. Whether LDR requirements apply to land-applied glass products leaving lamp treatment/recycling facilities. 4. Whether mobile treatment units including crushers are allowed under a Universal Waste framework. B. Clarify for protective on-site crushing is allowed under Universal Waste as long as it meets ' 262.34 generator standards. C. Recommend that States closely supervise reclamation facilities and identify appropriate BMPs. Benefits of This Approach We believe these recommendations resolve a host of issues and problems that have arisen since the adoption of the TCLP and its application to mercury-containing lamps. Most importantly, we believe this approach will result in significant reductions in mercury use and in environmental releases of mercury. As we have pointed out before, the BMPs we propose are designed to eliminate a primary source of mercury releases--air releases from incineration as well as minimize releases from accidental breakage. In addition, by setting a relatively short deadline for the exclusion to expire, lamp, users will demand low mercury-containing lamps that will pass the TCLP correlation test. If properly developed, the correlation test will be based on mercury levels rather than non-mercury factors that affect TCLP results. GE Lighting and other lamp manufacturers, therefore, will have a strong market incentive produce lamps with the lowest possible levels of mercury.

Benefits to Generators This approach resolves the increasingly problematic issues and costs facing generators. Although many of today's spent lamps fail the TCLP, some do not. The percentage that pass is rising and will continue to rise because newer lamps contain less mercury. Generators are facing real uncertainty over whether their lamps are hazardous or not and whether they should invest in costly testing . Developing a test based on a correlation of mercury levels in now lamps and for TCLP test resolves these generator issues. It eliminates the need for generators to pay for testing and provides them surety both at the time of spent lamp generation and lamp purchase that their lamps either are or are not hazardous wastes. GE Lighting would be willing to provide the necessary testing data to develop such a test.

RESPONSE

The Agency appreciates the commenters suggestions for alternative management options for

hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than full Subtitle C management standards). The final rule includes requirements for hazardous waste lamps to be stored and transported prior to recycling or disposal in a manner that minimizes releases of mercury into the environment.

The current universal waste rule prohibits universal waste handlers from treating universal wastes (40 CFR ' 273.11 and 273.31). The final rule for hazardous waste lamps retains the treatment prohibition for universal waste handlers and applies the prohibition to handlers of hazardous waste lamps. The definition of treatment under RCRA includes Any method, technique, or process...designed to change the physical, chemical, or biological character or composition of any hazardous waste, so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.@ The crushing of hazardous waste lamps clearly falls within the definition of treatment under RCRA (40 CFR 260.10).

Some commenters to the proposed hazardous waste lamps rule requested that the Agency allow generators of such lamps to crush them on-site before sending them off-site for treatment or disposal. However, as explained in the preamble to the final universal waste rule (60 FR 25519), the Agency believes that it is not appropriate to allow universal waste handlers to treat universal wastes because the handlers are not required to comply with the Subtitle C hazardous waste management standards for generators (40 CFR Part 262). These hazardous waste generators must obtain EPA identification numbers, are subject to the 90-day (or 180-day) accumulation limit, and must comply with the technical standards of 40 CFR Part 265 for storage and accumulation units. Because these standards are relatively stringent, EPA's policy is that generators may treat hazardous wastes on-site, provided that they comply with all applicable requirements of 40 CFR Part 262 for storage and accumulation of hazardous wastes.

Universal waste handlers, on the other hand, are allowed a much longer accumulation time limit of one year and need not comply with specific technical standards for accumulation and storage units. Instead, they are subject only to the general performance standard of managing universal wastes in a manner Athat prevents releases@to the environment. In addition, information available to the Agency on drum top crushing systems for lamps indicates that these units may allow significant air emissions of mercury, particularly when the units are not in operation, and emissions often may exceed the OSHA limit of 0.05 mg/m³.

For these reasons, the Agency is not allowing crushing of hazardous waste lamps under federal regulations. However, generators located in a state with an authorized universal waste program may be allowed to crush, universal waste lamps, if within the state authorization process the Agency determines that a state's program allowing generators to treat lamps under controlled or

restricted conditions is equivalent (per RCRA ' 3006) to the federal prohibition. EPA believes that this approach both ensures protection of human health and the environment while allowing the development of state regulatory programs that include specific standards for the safe crushing of hazardous waste lamps.

The Agency believes that it is not necessary to evaluate and/or implement a TCLP correlation test. EPA studies have determined that the majority of hazardous waste lamps fail the TCLP for mercury. However, spent lamps that exhibit any of the hazardous waste characteristics are subject to today's rulemaking. In addition, a handler could choose to manage all lamps (whether hazardous or not) under the universal waste system.

As required under the universal waste rule, destination facilities (i.e., treatment, disposal, or recycling and disposal facilities) are subject to all hazardous waste management requirements applicable to permitted or interim status hazardous waste treatment, storage and disposal facilities. Recycling processes are exempt from substantial hazardous waste regulation under ' 261.6(c); however, storage at recycling facilities remains subject to Subtitle C permitting. The universal waste rule ensures that mercury emissions are minimized during all stages of lamp management. The universal waste rule includes storage and packaging standards for handlers of hazardous waste lamps to ensure the proper management of spent lamps and to prevent uncontrolled and unintentional breakage during storage and transport to the recycling or treatment facility. EPA believes that with adequate state oversight, hazardous waste lamps can be safely recycled and the mercury reclaimed. In addition, the Agency believes that recycling facilities will guard against excessive mercury emissions since it is in the recycling facility's best economical interest to strive to limit mercury releases since mercury is essentially the product of the recovery process. Residuals from recovery operations must be managed in accordance with all applicable solid and hazardous waste management requirements. If residuals exhibit a characteristic of hazardous waste, they must be managed as hazardous waste.

The Agency is not including a sunset provision with today's final rule. The Agency believes that the data and information provided to the Agency and the Agency's own studies and analyses that were conducted during the period of time since the hazardous waste lamps rulemaking was proposed provide adequate evidence of the behavior of mercury in the environment and the potential releases of mercury to the environment to support today's final rule. The Agency notes, however, that should sufficient and compelling information related to the behavior of mercury become available in the future, the Agency can always re-evaluate the standards promulgated in today's final rule.

The Agency clarifies for the commenter that any hazardous waste (including lamps) that is applied to the land or used in a manner constituting disposal must be managed in compliance with the provisions of 40 CFR 266 Subpart C. These standards provide that the recyclable materials applied to the land must undergo a chemical reaction in the course of producing the product so as to become inseparable by physical means and the product must meet the applicable treatment

standards in subpart D of 40 CFR Part 268 for each recyclable material that they contain.

DCN FLEP-L0014

COMMENTS General Electric

SUBJECT ALTERN

COMMENTS Benefits to States The approach we are suggesting gives States the full range of legally available regulatory options, while at the same time providing States with necessary guidance on implementing one of those options: Universal Waste. Given that Universal Waste was not specifically designed for lamps or breakable materials in general, the additional guidance and clarification we have suggested for this rule will provide for both consistency among States, and for a management system that is tailored to the unique properties of lamps and lamp reclamation. This approach gives States flexibility to develop the best program given their unique circumstances. We are already aware of certain States that are developing lamp regulatory programs with significant variations on the Universal Waste system. Variations that are, in fact, not allowed under Universal Waste. We believe States are deviating from Universal Waste because they recognize it is not a system designed for lamps. Examples of deviations from Universal Waste include: No requirements for storage permits at reclamation facilities even if lamps are stored over 24 hours, implicitly waiving financial assurance and corrective action; No requirements for treatment permits at reclamation facilities, even if there is no direct mercury product stream coming from the facility (i.e., only a glass or metal stream), implicitly waiving financial assurance, corrective action, closure plans, waste analysis plans, contingency plans, etc.; No land disposal restriction notification or requirements that products which are land-applied meet universal treatment standards; Classification of spent lamps going to recycling as byproduct material which is not a solid waste; and No biennial reporting for recycling or storage facilities. Our concern is not whether these types of implementation approaches are protective, but whether they can be made to fit within Universal Waste. Our reading of Universal Waste leads us to believe that they do not fit and their existence in States will continue to create serious enforcement precedence problems for EPA's Universal Waste program and continued concerns for generators who, by following States guidance, violate federal RCRA requirements. This subjects them

to citizen suits or EPA enforcement. It also raises SEC compliance disclosure issues. Thus, flexibility allows States to adopt program variations without encountering these concerns. It allows States to account for differences in the types of lamps being managed, in the types of technologies, variations in treatment and disposal capacity, and in population densities.

RESPONSE

The Agency has determined that hazardous waste lamps fit most of the criteria established for designating materials as universal waste. Today's final rule may reduce much of the current confusion over the regulatory status of spent lamps, at least at the federal level; however, individual states may have more stringent requirements for the management of this waste. Today's rule becomes effective in states that are not authorized for the federal Subtitle C hazardous waste program, but will not be immediately effective in authorized states since the requirements are not promulgated pursuant to HSWA. These requirements will not be effective in authorized states until such states revise their solid waste management programs to adopt equivalent requirements. EPA strongly encourages them to adopt today's final rulemaking that adds hazardous waste lamps to the federal universal waste rule program not only to achieve the most benefit from the universal waste program but also to reduce the complexity of interstate transportation of these universal wastes.

DCN FLEP-L0014

COMMENTS General Electric

SUBJECT ALTERN

COMMENT Some within and outside EPA have suggested an exclusion could potentially be issued only for lamps that are destined for recycling. We do not believe an exclusion crafted this way would solve many of the restrictive problems with either full Subtitle C or Universal Waste. In particular, EPA would be required to clearly define what constitutes and what does not constitute recycling. Many reclamation facilities currently crush lamps and extract mercury and then ship the mercury tied up in either phosphor powder or carbon filters to a retorting facility for final recovery. Under RCRA, these facilities are performing treatment not recycling and under a "recycling exclusion" would be required to obtain a full Part B permit. In addition, it is not clear in the long run whether recycling is the preferred environmental alternative for mercury in lamps. As we work toward reducing the amount of mercury used in manufacturing and products, the need to recover mercury will also decrease. An exclusion that so strongly favors mercury recycling leaves no flexibility for this shift in priorities. At the same time, even with an exclusion, States that want to encourage recycling can

always adopt mandatory recycling laws for lamps or ban lamps from incineration or landfills. Many States have taken this approach with batteries, tires, and other special materials in situations where good recycling alternatives are available and that States believes the recycling alternative is more environmentally desirable. States would have complete flexibility to implement these requirements based on local situations and could tailor for conditions to types of generators, number of lamps, or type of destination facilities.

RESPONSE

The Agency agrees with the commenter that an exclusion of hazardous waste lamps destined for recycling is not warranted. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than full Subtitle C management standards).

Today's final rule will greatly facilitate the environmentally-sound collection and the proper recycling or treatment of hazardous waste lamps. Based on the belief that less complex and less costly regulations will increase the collection of universal wastes, the Agency did not limit the universal waste system to the recycling of waste. Generators have several options with regard to waste management, but the ability to access large quantities of universal waste from central collection centers may encourage the development of safe and effective methods to recycle universal waste.

The universal waste rule ensures that mercury emissions are minimized during all stages of lamp management. The universal waste rule includes storage and packaging standards for handlers of hazardous waste lamps to ensure the proper management of spent lamps and to prevent uncontrolled and unintentional breakage during storage and transport to the recycling or treatment facility. Under the universal waste rule, destination facilities (i.e., treatment, disposal, or recycling facilities) are subject to all hazardous waste management requirements applicable to permitted or interim status Subtitle C hazardous waste treatment, storage, and disposal facilities. However, hazardous waste recycling facilities that do not store hazardous wastes prior to recycling may be exempt from permitting under federal regulations (40 CFR 261.6(c)(2)); however, storage at recycling facilities remains subject to RCRA Subtitle C permitting.

DCN FLEP-L0014

COMMENTS General Electric

SUBJECT ALTERN

COMMENT Administrative Procedures Act Implications of This Proposal We believe that this approach is consistent with the two options EPA put forth in the July proposal and would therefore not require additional notice and comment actions by EPA. This

proposal is essentially the exclusion which was one of the two proposals put forth by EPA. In addition, EPA asked for comments in the proposed rule on BMPs and therefore received public input on this issue. The guidance to States on Universal waste rule would be consistent with the implementation of those rules and would not create the need for additional public comment. The correlation test could proceed as a technical amendment after EPA has obtained sufficient data.

2. EPA Implements a TCLP Correlation Test To Be Effective After Exclusion Expires. GE Lighting and other manufacturers would provide sufficient testing information to evaluate those levels of mercury placed in new lamps that result in the lamps substantially passing the TCLP upon the end of their useful life, EPA would then issue a simple correlation test based on those levels placed into new lamps at the time the exclusion expires. Both manufacturers and customers would know, at the time of manufacturing, whether their spent lamps would require hazardous waste classification. The correlation test would serve as an alternative to the TCLP. Manufacturers or customers could continue to use TCLP if they preferred.

RESPONSE

The Agency believes that it is not necessary to evaluate and/or implement a TCLP correlation test. EPA studies have determined that the majority of hazardous waste lamps fail the TCLP for mercury and sometimes for lead. However, spent lamps that exhibit any of the hazardous waste characteristics are subject to today's rulemaking. In addition, a handler could choose to handle all waste lamps (whether hazardous or not) under the universal waste program.

DCN SCSP-L0019

COMMENTS New Jersey Dept. of Env. Prot. and En.

SUBJECT ALTERN

COMMENT This Division's opinion is that the key to this decision-making is whether the discarded product exhibits its hazardous characteristic in the storage, handling and transport of the waste. The TCLP characteristic is only available upon disposal in a landfill environment. While the discarded product may possess the characteristic for TCLP, it is not exhibited until it is physically weathered and exposed to an acid environment. While industrial sludges and residues exhibit the TCLP characteristic in the form they are stored batteries, fluorescent bulbs, mercury switches, television tubes, electronic circuit boards and other heavy metal containing

products do not. This Division requests that the agency evaluated its interpretation of when the TCLP characteristic applies. If the discarded products are slated for disposal, the TCLP characteristic should apply. However, if the discarded products are slated for reclamation, reuse or recycling the TCLP characteristic should not be utilized in determining the wastes classification. This is particularly true in recycling or reclamation processes that utilize raw materials that are equivalent in characteristics. In this manner the agency could limit the need for this proposed exemption for those types of discarded products or process residue which have a higher degree of environmental impact in their storage, handling and transport such as pesticides.

The Agency should include fluorescent bulbs in the system and then decide acceptable management options. Without an approach that exempts or as we suggest excludes them from the hazardous waste management these products are going to be disposed of in the solid waste stream. This is a particularly timely issue since the USEPA Green Light program is rapidly pushing for the conversion to more efficient fluorescent light. With this switch over, we will see a dramatic increase in the number of fluorescent light bulbs in the solid waste disposal stream. The mercury released from these products will be available in the environment. The other alternative is to inform all generators of larger than a small quantity of bulbs, that because bulbs, as determines by the USEPA, do not routinely pass the TCLP Characterization test, they must be managed, either recycled or disposed, as hazardous waste.

RESPONSE

Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than full Subtitle C management standards).

EPA studies have determined that the majority of hazardous waste lamps fail the TCLP for mercury and sometimes for lead. Spent lamps that exhibit a hazardous waste characteristic are subject to today's rulemaking. It is beyond the scope of today's rulemaking to address the adequacy or applicability of the TCLP to different types of wastestreams. The TCLP continues to be the procedure used to determine the toxicity of a wastestream. It is used as an indicator of the potential hazardousness of a waste under a mismanagement scenario to determine if a waste should be managed as a hazardous waste regardless of whether it is ultimately disposed or recycled.

DCN FLEP-00177

COMMENTS Philps Lighting Company

SUBJECT ALTERN

COMMENT As the recycling infrastructure grows and the industry matures, it will make sense to remove the land disposal option on a regional basis.

RESPONSE

Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than full Subtitle C management standards).

Today's final rule will greatly facilitate the environmentally-sound collection and the proper recycling or treatment of hazardous waste lamps. Based on the belief that less complex and less costly regulations will increase the collection of universal wastes, the Agency did not limit the universal waste system to the recycling of waste. Generators have several options with regard to waste management, but the ability to access large quantities of universal waste from central collection centers may encourage the development of safe and effective methods to recycle universal waste. The Agency does not believe that a mandatory spent lamp recycling approach is warranted; however, individual states can be more stringent than the federal program if they so choose.

DCN FLEP-00156

COMMENTS National Electrical Manufacturers Assn.

SUBJECT ALTERN

COMMENT III. NEMA'S POSITION ON SPENT LAMP MANAGEMENT

A. EXCLUSION WITH BEST MANAGEMENT PRACTICES

NEMA believes that the best approach to regulating the management of spent mercury-containing lamps that fail the Toxicity Characteristic is to exclude from Subtitle C lamps that are handled in compliance with EPA-promulgated Best Management Practices. This approach to an exclusion would ensure protective management while at the same time would remove the significant disincentives to lighting upgrades that are created by, Subtitle C. In fact, the level of environmental protection could actually be higher than under the current Subtitle C framework since the BMPs are specifically tailored to spent lamps. Two sets of regulations would be required: one set of regulations would be promulgated under 40 FR. Part 261.6 (Requirements for Recyclable Materials) and would contain a regulatory exclusion for recycling that is conducted in compliance with recycling BMPS. These BMPs would cover lamp management at the generator's site, transportation, storage,

recycling operations, and end use product quality. They do not require recycling facilities to obtain a RCRA Part B Permit. A second set of regulations would be promulgated under 40 CFR 261.4(b) (Solid wastes which are not hazardous wastes) and would contain a regulatory exclusion for Subtitle D landfilling that is conducted in compliance with BMPs. These BMPs establish requirements for generator lamp management, transportation, and storage that are the same as those established for recycling; and -would also contain special landfilling BMPs. The landfilling exclusion would contain fewer BMPs than the recycling exclusion because the existing Federal requirements for Subtitle D landfillings provide most of the environmental protection needed.

Recognizing the problems created by full Subtitle C regulation of some wastes, the Agency over the years has promulgated a variety of tailored exclusions from the hazardous waste regulatory requirements. The exclusions have been promulgated for a number of different reasons. Used oil filters and chlorofluorocarbons were excluded under 40 CFR 261.4 to encourage recycling. Precious metals, used oil, and batteries were excluded under 40 CFR Part 261.6 to encourage recycling, and were accompanied by standards promulgated in Part 266. Certain trivalent chromium-containing wastes were excluded because they were believed not to be toxic enough to require full regulation and could be safely managed under special management conditions. Contaminated soils at underground storage tank (UST) sites were excluded because they were already monitored under the underground storage tank corrective action requirements and meeting Subtitle C requirements would simply slow the remediation process. Reinjecting groundwater was excluded to achieve greater overall environmental protection by avoiding the slowdown in groundwater remediation requirements and the further spread of contamination that would be caused by full Subtitle C regulation. None of these exclusions has been legally challenged. Continuing the tradition of excluding wastes from full hazardous waste regulation to achieve over-arching environmental goals, EPA has proposed a contingent exclusion for non-UST petroleum contaminated media by deferring to state regulatory authorities in order to speed clean-ups. EPA is also giving serious consideration to proposing an exemption for lead paint abatement wastes contingent upon management of the wastes

under tailored disposal requirements promulgated under the Toxic Substances Control Act. [16] (Footnote 16: Memorandum, September 22, 1994, from Diane Sheridan, Chemical Management Division, Office of Pollution Prevention and Toxics, USEPA, regarding upcoming stakeholders meeting on Lead-Based Paint Waste Abatement Rule.) The rationale for this exclusion is that RCRA regulation, due to cost and procedural issues, slows down abatement activities and consequently increases exposures to lead. Mercury-containing lamps are equally qualified from an exclusion from full hazardous waste regulation for many of the reasons described above. First, it is indisputable that the environment would be better served by unencumbered implementation of Lighting upgrade programs. The amount of mercury estimated to be released under the absolute worst case scenario for landfilling (3.1 tons, See Enclosure 5) is dwarfed by the 286 tons of mercury [17] (Footnote 17: Office of Air Quality Planning and Standards, "Draft Mercury Emissions Inventory", developed in support of Mercury Report to Congress, January 10, 1994.) and the millions of tons of greenhouse gases estimated to be emitted by high temperature fossil fuel and waste combustion sources each year are, regulatory regime that creates disincentives for lighting efficiency upgrades slows the pace of reductions in energy consumption and power plant emissions and is clearly at variance with national environmental and energy goals. Such a situation requires adjustments in this case, through the creation of tailored regulatory standards such as the NEMA BMPs that are equally if not more protective than traditional Subtitle C. Second, as has been stated numerous times in EPA and other technical studies, mercury does not at environmentally significant levels from existing municipal landfills, demonstrating that disposal in Subtitle D landfills that meet the requirements for new landfill units as recommended in the NEMA BMPs, is likely to be even more protective than the landfills studied in the past. The regulatory requirements for new Subtitle D landfill units provide sufficient protection in the same way that UST corrective action requirements, state petroleum remediation programs, and TSCA disposal standards are being deemed protective against the risks of other wastes excluded or proposed to be excluded from Subtitle C. This contingent management approach to hazardous waste regulation is clearly authorized by the statute, as EPA explained in its proposed rule of May 20, 1992 (later withdrawn) to amend the

hazardous waste identification system, the so-called Hazardous Waste Identification Rule 1. NEMA agrees with EPA's analysis as explained at 57 FR 21454-21455, that the statute gives EPA the flexibility to make hazardous waste identification decisions dependent upon a consideration of the ways in which a waste is managed. By excluding mercury-containing lamps contingent upon management in a Subtitle D landfill that meets the standards for new units, EPA would assure the safe disposal of lamps at a fraction of the cost of Subtitle C. Third, the risks posed by excluded recycling can be controlled in the same fashion as those posed by materials currently excluded under Part 261.6 and regulated under Part 266 (e.g., batteries and precious metals). NEMA's proposed BMPS, including the references to OSHA standards and controls on the reuse of residuals, would fit neatly into Part 266 as the conditions for the recycling exclusion. Fourth, to protect against the rather limited risks of storage, handling, and transportation, EPA has the ability to defer to other Federal regulatory programs, such as those implemented by the Department of Transportation and OSHA. To fill any gaps existing in those programs, EPA can promulgate very limited and tailored requirements within the existing Subtitle C regulations as a condition of the exclusion. The regulatory language below shows how we would recommend structuring the exclusion to achieve the greatest environmental protection at the least additional cost and burden to the regulated community, relying to the extent possible on existing federal authorities. Fifth, as in the case of existing exclusions that defer to state authorities, mercury-containing lamps are subject to increasing regulatory control at the state level, sometimes in violation of the authorized Subtitle C program. Many state programs are also inconsistent with the Universal Waste approach as proposed by EPA. Therefore, EPA needs to promulgate an exclusion with BMPs that would provide a Federal minimum, to which the states are free to add requirements as they see fit. Since the lamps would be excluded from Subtitle C, states would have increased flexibility as long as BMPs were met, to further supplement the standards to meet their own state needs. Examples of current state practices that violate Subtitle C but would be allowable under a conditional exclusion are the waiver of the manifest requirements and storage requirements for lamps that are being recycled. In summary, the authority and precedent clearly exist for EPA to promulgate a conditional exclusion for spent

mercury-containing lamps. The exclusion provides significant environmental benefits over those provided by Subtitle C, it defers to other Federal authorities that are protective, and the NEMA BMPs would serve to fill any regulatory gaps and assure enforceability.

RESPONSE

The Agency appreciates the commenter's suggestions of alternatives for the management of mercury-containing lamps. Although EPA encourages generators of spent lamps to manage their lamps in a protective manner including environmentally responsive recycling programs, the Agency does not believe that the risks associated with the management of spent lamps warrant the type of exclusion and extensive management practices suggested by the commenter. EPA has decided not to promulgate a conditional exclusion at this time.

Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than full Subtitle C management standards). Today's final rule will greatly facilitate the environmentally-sound collection and the proper recycling or treatment of hazardous waste lamps. Based on the belief that less complex and less costly regulations will increase the collection of universal wastes, the Agency did not limit the universal waste system to the recycling of waste. Generators have several options with regard to waste management, but the ability to access large quantities of universal waste from central collection centers may encourage the development of safe and effective methods to recycle universal waste.

Regarding the disposal of hazardous waste lamps, today's rule specifies that universal waste destination facilities (i.e., facilities that treat, dispose, or recycle universal waste) are subject to all applicable Subtitle C requirements for hazardous waste treatment, storage, and disposal facilities and must receive a RCRA permit for such activities. However, hazardous waste recycling facilities that do not store hazardous wastes prior to recycling may be exempt from permitting under federal regulations (40 CFR 261.6(c)(2)).

EPA agrees with the commenter on the authority provided by the statute to conditionally exclude hazardous waste lamps from Subtitle C regulation. However, in light of information obtained from recent studies and comments, the Agency has determined that the universal waste rule system is the best approach for streamlining the management standards for hazardous waste lamps while ensuring protection of the human health and the environment.

DCN FLEP-00156

COMMENTS National Electrical Manufacturers Assn.

SUBJECT ALTERN

COMMENT 2. The Landfilling Standards NEMA recommends that the exclusion for Landfilling be promulgated under 40 CFR Part 261.4(b). This section of the RCRA regulations is used to exclude waste

materials that require only brief descriptions of relatively simple and straightforward management practices to qualify for the exclusion, as opposed to the more elaborate provisions of Part 261.6 and Part 266. Because the Federal standards for new Subtitle D landfill units are already codified and are protective against the potential risks of landfilling spent lamps, and because implementation of all applicable OSHA standards is protective against risks of crushing, the only additional BMPs needing promulgation involve record-keeping and reporting, storage, transportation, and disposal of intact lamps. Precedent has already been established for the weaknesses in the ability of traditional Subtitle C to address air emission issues. For example, contaminated soil at underground storage tank sites was excluded in part because Subtitle C did little to address air releases and only slowed the remediation process. Asbestos has also never been listed as a hazardous waste because of EPA's realization that Subtitle C would not control asbestos air releases adequately. The landfilling BMPs can be codified within 261.4(b) as shown in the regulatory language shown in Option A below, or the requirements can be captured in a brief guidance document that is referenced in the regulations, with each party in the landfilling process certifying that they are in compliance with the BMPs, as shown in Option B below. Option A

261.4(b) Solid Wastes Which Are Not Hazardous Wastes: (16) Spent mercury-containing lamps that are hazardous because they exhibit a characteristic and are disposed in any lined landfill unit with a leachate collection system or a Subtitle D municipal landfill unit or industrial solid waste landfill unit that meets the requirements for new landfill units under Part 258 if-

RESPONSE

The Agency appreciates the commenter's suggestion of alternatives to spent mercury lamp management; however, EPA has decided not to promulgate a conditional exclusion. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than full Subtitle C management standards).

Spent hazardous waste lamps are one of the highest sources of mercury in the municipal solid waste stream, possibly accounting for as much as 3.8 percent of all mercury now going to municipal landfills. The Agency does not have data characterizing the behavior of mercury in different types of landfills over long time periods, although available data from shorter-term studies suggest that mercury can be, and has been released to groundwater and air from municipal landfills. (For a more complete discussion of mercury releases from landfills

and fate and transport in groundwater, see the Toxicity Section of this Response to Comments document). However, data available to the Agency show that mercury can be found in municipal landfill leachate, and EPA remains concerned that landfill releases may pose threats over the long term. For these reasons, today's rule specifies that universal waste destination facilities (i.e., facilities that treat, dispose, or recycle universal waste) are subject to all applicable Subtitle C requirements for hazardous waste treatment, storage, and disposal facilities and must receive a RCRA permit for such activities. Hazardous waste recycling facilities that do not store hazardous wastes prior to recycling may be exempt from permitting under federal regulations (40 CFR 261.6(c)(2)).

DCN FLEP-00177

COMMENTS Philps Lighting Company

SUBJECT ALTERN

COMMENT We feel that a tailored exclusion from Subtitle C is the most environmentally protective means for the disposal of spent mercury containing lamps.

Philps Lighting recommends that the Agency carefully evaluate and endorse the NEMA position that spent lamps containing mercury be disposed under a carefully tailored exclusion from Subtitle C regulations. We feel the proposal to be well thought out, based on the best available technology and fully protective of the environment.

RESPONSE

The Agency appreciates the commenter's suggestion of alternatives to spent mercury lamp management; however, EPA has decided not to promulgate a conditional exclusion. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than full Subtitle C management standards).

Spent hazardous waste lamps are one of the highest sources of mercury in the municipal solid waste stream, possibly accounting for as much as 3.8 percent of all mercury now going to municipal landfills. The Agency does not have data characterizing the behavior of mercury in different types of landfills over long time periods, although available data from shorter-term studies suggest that mercury can be, and has been released to groundwater and air from municipal landfills. (For a more complete discussion of mercury releases from landfills and fate and transport in groundwater, see the Toxicity Section of this Response to Comments document). Data available to the Agency show that mercury can be found in municipal landfill leachate, and EPA remains concerned that landfill releases may pose threats over the long term. For these reasons, today's rule specifies that universal waste destination facilities (i.e., facilities that treat, dispose, or recycle universal waste) are subject to all applicable Subtitle C requirements for hazardous waste treatment, storage, and disposal facilities and must

receive a RCRA permit for such activities. Hazardous waste recycling facilities that do not store hazardous wastes prior to recycling may be exempt from permitting under federal regulations (40 CFR 261.6(c)(2)).

DCN FLEP-00183

COMMENTER Chemical Manufacturers Association

SUBJECT ALTERN

COMMENT CMA applauds

EPA for proposing the conditional exclusion approach, and urges EPA to adopt it in this rulemaking and to consider expanding its utility to other RCRA contexts, such as the Hazardous Waste Identification Rule.

RESPONSE

EPA has decided not to adopt a conditional exclusion for hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than full Subtitle C management standards).

DCN FLEP-00202

COMMENTER Union Camp Corporation

SUBJECT ALTERN

COMMENT This exclusion should be

without conditions unless the spent lamps are not handled in an approved manner such as appropriate recycle or disposal in a Subtitle D or industrial landfill. Union Camp appreciates the opportunity to comment on this far reaching proposed rule.

RESPONSE

EPA has decided not to adopt conditional exclusion for hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than full Subtitle C management standards). The universal waste rule is expected to result in cost reductions over Subtitle C management requirements for generators, collectors, and transporters, yet it ensures that lamps are managed in an environmentally protective manner and are properly recycled or treated at Subtitle C facilities prior to disposal.

DCN FLEP-00203

COMMENTER American Gas Association

SUBJECT ALTERN

COMMENT If EPA adopts the conditional exclusion, we urge EPA to exclude mercury containing lamps when their quantity is such that they would be small quantity conditionally exempt in and of themselves, rather than combined with other waste. For example,

disposal of mercury containing lamps at a large quantity generator site, such as an LNG plant, or a transportation garage, will be a tremendous burden if special handling, manifesting, and other requirements apply. This generation of the mercury containing lamps is no different than small quantity conditional exempt generator except that there is some activity ongoing on site, which causes the site to have a generator status. Therefore, these lamps should be excluded.

RESPONSE

Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than full Subtitle C management standards). The universal waste rule is expected to result in cost reductions over Subtitle C management requirements for generators, collectors, and transporters, yet it ensures that lamps are managed in an environmentally protective manner and are properly recycled or treated at Subtitle C facilities prior to disposal.

In addition, today's final rule does not affect the regulatory status of conditionally exempt small quantity generators (CESQGs)(i.e., those generators that produce less than 100 kg total hazardous waste per month). CESQGs continue to be conditionally exempt from full Subtitle C regulation provided that the provisions under ' 261.5 are met. Under the universal waste system, CESQGs can choose to manage their universal waste lamps in accordance with either the CESQG regulations under 40 CFR ' 261.5 or as universal waste under Part 273 (40 CFR 273.8(a)(2)). Hazardous waste lamps that are managed as universal waste under 40 CFR Part 273 do not have to be included in a facility's determination of hazardous waste generator status (40 CFR 261.5(c)(6)). Therefore, if a generator manages such lamps under the universal waste system and does not generate any other hazardous waste, that generator is not subject to other Subtitle C hazardous waste management regulations, such as the hazardous waste generator regulations in Part 262.

DCN FLEP-00282

COMMENTS Michigan Dept. of Natural Resources

SUBJECT ALTERN

COMMENT In conclusion, we support the alternatives that require recycling rather than landfilling of mercury containing lamps. Because of the national and international concern with environmental mercury contamination, any alternative which allows the atmospheric release of mercury should not be considered.

RESPONSE

Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e.,

universal waste rule is less stringent than full Subtitle C management standards). While setting standards to minimize potential emissions particularly during storage and transport. Today's final rule will greatly facilitate the environmentally-sound collection and the proper recycling or treatment of hazardous waste lamps. Based on the belief that less complex and less costly regulations will increase the collection of universal wastes, the Agency did not limit the universal waste system to the recycling of waste. Generators have several options with regard to waste management, but the ability to access large quantities of universal waste from central collection centers may encourage the development of safe and effective methods to recycle universal waste.

Regarding the disposal of hazardous waste lamps, today's rule specifies that universal waste destination facilities (i.e., facilities that treat, dispose, or recycle universal waste) are subject to all applicable Subtitle C requirements for hazardous waste treatment, storage, and disposal facilities and must receive a RCRA permit for such activities. However, hazardous waste recycling facilities that do not store hazardous wastes prior to recycling may be exempt from permitting under federal regulations (40 CFR 261.6(c)(2)).

DCN FLEP-00293

COMMENTS American Airlines, Inc.

SUBJECT ALTERN

COMMENT American suggests that EPA study the disposal of MCLs in dumpsters, roll-offs and waste hauling vehicles to determine if such practices contribute significant amounts of mercury to the environment. If such practices are not a significant contributor, then EPA could simply allow disposal of lamps with the generator's nonhazardous waste stream - provided the waste is delivered to a MSW landfill.

RESPONSE

EPA has determined through studies that significant threats of mercury releases occur from breakage during storage and transport. The Agency is convinced the best way to minimize mercury emissions from lamps is under the universal waste program.

Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than full Subtitle C management standards). While setting standards to minimize potential emissions particularly during storage and transport. Today's final rule will greatly facilitate the environmentally-sound collection and the proper recycling or treatment of hazardous waste lamps. Based on the belief that less complex and less costly regulations will increase the collection of universal wastes, the Agency did not limit the universal waste system to the recycling of waste. Generators have several options with regard to waste management, but the ability to access large quantities of universal waste from central collection centers may encourage the development of safe and effective methods to recycle universal waste.

EPA notes for the commenter that the Agency published a Notice of Data Availability on July 11, 1997 (62 FR 37183). This notice presented data collected by the Agency and an assessment of potential mercury emissions from the management of hazardous waste lamps under several regulatory approaches.

DCN FLEP-00298

COMMENTS New York Power Authority

SUBJECT ALTERN

COMMENT We support the proposal for the exclusion of efficient lighting waste from Subtitle C: RCRA regulations. We feel that unduly burdensome hazardous waste regulation discourages efficient lighting upgrades. It is our belief that it would be more beneficial for human health and the environment to encourage and facilitate efficient lighting upgrade programs. We are seriously concerned, however, that even if mercury containing lighting wastes were to be excluded from hazardous waste regulation under RCRA, NYPA is potential Superfund liability for the clean-up of at mercury contaminated site would still be in effect. In the case at hand we are facing conflicting regulation under RCRA and CERCLA. The overriding CERCLA liability of multi- million dollar remediation and litigation costs would render the RCRA hazardous waste exemption meaningless. We are anxious to avoid all possible Superfund liability and would opt for higher priced recycling disposal methods of mercury containing lighting waste as long as CERCLA liability is a foreseeable possibility. We, therefore, urge EPA to review CERCLA in the context of proposed RCRA regulation and to adopt a synchronized approach under both statutes for the disposal of lighting waste.

RESPONSE

Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than full Subtitle C management standards).

The Agency notes that generators of waste can be held liable for releases of hazardous substances from their waste under CERCLA regardless of the regulatory status of the waste. In addition, liability for waste contamination is a statutory provision. EPA does not have the authority to amend the liability status of generators under RCRA or CERCLA. Proper management of spent lamps under the universal waste program may limit a generator's liability under CERCLA since proper management will minimize releases and thus, potential contamination. However, it is still the generator's responsibility to ensure his waste is ultimately treated and disposed or recycled properly.

DCN FLEP-00301

COMMENTS Minnesota Pollution Control Agency/MOEA

SUBJECT ALTERN

COMMENT 5. Precedent of CE Alternative for Other Mercury Products.

The CE alternative would establish a bad precedent for other mercury-containing products. In assessing the CE alternative, EPA should also include the impacts of the CE alternative on mercury products as a source category.

RESPONSE

The Agency notes that the conditional exclusion alternative was not retained in today's final rule. Today's rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than full Subtitle C management standards).

Today's final rule will greatly facilitate the environmentally-sound collection and the proper recycling or treatment of hazardous waste lamps. Based on the belief that less complex and less costly regulations will increase the collection of universal wastes, the Agency did not limit the universal waste system to the recycling of waste. Generators have several options with regard to waste management, but the ability to access large quantities of universal waste from central collection centers may encourage the development of safe and effective methods to recycle universal waste.

DCN FLEP-00301

COMMENTS Minnesota Pollution Control Agency/MOEA

SUBJECT ALTERN

COMMENT Second, analysis of the Conditional Exemption alternative must include cost estimates for environmental cleanup, correction of landfill contamination, and Superfund (CERCLA) liability. A small investment today in proper lamp management is preferable to an unknown future investment in cleanup and liability actions. OMB should also be concerned with technological innovation and internalization of environmental costs to reduce public subsidies for environmental degradation. Conditional Exemption gives manufacturers absolutely no incentive for innovation in lighting. First, they would have no incentive to design mercury-containing lamps for recyclability. Second, it would remove incentives for research and development for new efficient non-mercury lighting alternatives. Mercury is very cheap relative to its environmental costs. Manufacturers have developed other efficient lighting technologies that do not rely on mercury. Since they are more expensive than mercury-based Technologies, manufacturers have never had an incentive to

refine these technologies and bring them into large scale production and use.

RESPONSE

The Agency notes that the conditional exclusion alternative was not retained in today's final rule. Today's rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. Source reduction, which is the reduction or elimination of the toxicity and/or volume of a waste product, is at the top of EPA's hierarchy of solid waste management methods. The Agency encourages cost-effective source reduction of mercury contained in fluorescent lamps and believes the universal waste rule will continue to be an incentive to reducing the amount of mercury in lamps. Second on the hierarchy is recycling. Today's final rule will greatly facilitate the environmentally-sound collection and increase the proper recycling or treatment of hazardous waste lamps. The ability to access large quantities of universal waste from central collection centers may encourage the development and use of safe and effective ways to recycle universal waste.

DCN FLEP-00305

COMMENTER Sierra Club National Solid Waste Comm.

SUBJECT ALTERN

COMMENT If the conditional exclusion option is chosen, landfilling in small (<100 t/d) landfills should be excluded since they have lower standards. Certainly, the exclusion should not allow generators to send lamps to MSW incinerators. In fact, since these are already a major source of mercury, limitations need to be placed on shipments by CESQG and in household MSW.

RESPONSE

The Agency notes that the conditional exclusion alternative was not retained in today's final rule. Today's rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than full Subtitle C management standards).

Today's final rule will greatly facilitate the environmentally-sound collection and the proper recycling or treatment of hazardous waste lamps. Based on the belief that less complex and less costly regulations will increase the collection of universal wastes, the Agency did not limit the universal waste system to the recycling of waste. Generators have several options with regard to waste management, but the ability to access large quantities of universal waste from central collection centers may encourage the development of safe and effective methods to recycle universal waste.

Regarding the disposal of hazardous waste lamps, today's rule specifies that universal waste destination facilities (i.e., facilities that treat, dispose, or recycle universal waste) are subject to all applicable Subtitle C requirements for hazardous waste treatment, storage, and disposal facilities and must receive a RCRA permit for such activities. However, hazardous waste recycling

facilities that do not store hazardous wastes prior to recycling may be exempt from permitting under federal regulations (40 CFR 261.6(c)(2)). Today's rule does not affect the regulatory status of generators of small volumes of spent lamps, including households and conditionally exempt small quantity generators (CESQGs are facilities that generates less than 100 kg of hazardous waste in any given month). Household and CESQG hazardous waste lamps may continue to be disposed of at Subtitle D disposal facilities. However, the streamlined regulations will provide an incentive for these categories of generators to collect the unregulated portions of the wastestream and manage them using the same systems developed for the regulated portion, thereby removing hazardous waste lamps from the municipal wastestream and minimizing the amount of hazardous waste going to municipal landfills and combustors.

DCN FLEP-L0001

COMMENTER Environmental Technology Council

SUBJECT ALTERN

COMMENT If EPA believes that the existing TC level of 0.2 mg/l for mercury is overly-stringent, then the Agency should revise that level for all mercury wastes. Nothing in the record justifies exempting mercury-containing lamps that fail the TC from RCRA Subtitle C controls. Stated otherwise, under EPA's rationale for the conditional exclusion, All mercury hazardous wastes, not just lamps, which exceed the TC regulatory threshold, should be excluded from hazardous waste controls. Thus, adopting the conditional exclusion would establish a dangerous precedent that could potentially lead to exclusions from Subtitle C for other TC hazardous mercury wastes.

The hazardous waste regulations impose stringent controls on facilities that manage hazardous wastes. One of the most important Subtitle C provisions is the requirement to treat hazardous wastes prior to land disposal. RCRA ' 3004(m)(1); 40 CFR Part 268. Mercury hazardous wastes must be stabilized before landfilling; stabilization minimizes the migration potential of the mercury once it has been disposed. Under the conditional exclusion, there would be no comparable requirement to reduce the toxicity or mobility of the mercury prior to land disposal, thereby unnecessarily creating risks to human health and the environment.

RESPONSE

The Agency notes that the conditional exclusion alternative was not retained in today's final rule. Today's rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than full Subtitle C management standards).

Today's final rule will greatly facilitate the environmentally-sound collection and the proper recycling or treatment of hazardous waste lamps. Based on the belief that less complex and less costly regulations will increase the collection of universal wastes, the Agency did not limit the universal waste system to the recycling of waste. Generators have several options with regard to waste management, but the ability to access large quantities of universal waste from central collection centers may encourage the development of safe and effective methods to recycle universal waste.

Regarding the disposal of hazardous waste lamps, today's rule specifies that universal waste destination facilities (i.e., facilities that treat, dispose, or recycle universal waste) are subject to all applicable Subtitle C requirements for hazardous waste treatment, storage, and disposal facilities (including the requirement to treat hazardous waste prior to land disposal) and must receive a RCRA permit for such activities. However, hazardous waste recycling facilities that do not store hazardous wastes prior to recycling may be exempt from permitting under federal regulations (40 CFR 261.6(c)(2)).