DCN FLEP-00007
COMMENTER Gates Corporation
SUBJECT GEN
COMMENT 1. Gates supports EPA's proposal to reduce the regulatory burden on mercury containing lamps. The fluorescent light bulbs in many office buildings and other businesses contain a small quantity of mercury. As EPA's proposal points out, these light bulbs or lamps may fail the toxicity characteristic leaching procedure ("TCLP") test and would thus be classified as hazardous waste when discarded. Although this classification is consistent with TCLP results, it is inappropriate for mercury-containing lamps. The lamps have little adverse impact on the human health or the environment. Nevertheless, because of they are classified as hazardous waste, they cause companies to incur great costs and environmental management headaches. For this reason, Gates commends EPA for its proposal. EPA's proposal recognizes that spent flourescent lamps should not be forced into the hazardous waste management system. Gates strongly supports EPA's efforts to reduce the regulatory burden associated with these lamps.

Moreover, EPA's proposal will reduce the complexity of RCRA regulatory compliance for companies seeking to comply with the law. The proposal would thus allow EPA and the regulated community to focus their efforts on more serious environmental threats. As EPA's proposal makes clear, the environmental threat from disposal of mercury-containing lamps is small; it is greatly outweighed by the cost and difficulty of managing the lamps as hazardous waste.

Gates is pleased to present these comments on EPA's proposal to reduce the regulatory burden on the management of mercury containing lamps. It applauds EPA's efforts to focus resources of the Agency and the regulated community on more significant environmental threats.

RESPONSE
Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as universal waste. As the commenter points out, today=s final rule reduces the regulatory burden associated with the management of hazardous waste lamps and reduces the complexity of the RCRA regulations governing waste lamps that are hazardous because of mercury or any other hazardous characteristic.

The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters, yet ensures that lamps are recycled or treated in an environmentally protective manner at Subtitle C hazardous waste facilities. Fewer hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and landfills 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 ensures that releases 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., facilities that treat, dispose, or recycle universal wastes) are subject to all Subtitle C management requirements applicable to hazardous waste treatment, storage, and disposal facilities.

DCN SCSP-00009
COMMENTER Niagara Mohawk Power Corporation
SUBJECT GEN
COMMENT Also, it is extremely important that either EPA include lighting wastes in the relaxed waste management standards proposed under the Universal Waste Rule or provide an explicit exemption from the hazardous waste program for handling lighting waste. As has already been duly noted by the Utility Solid Waste Activities Group ("USWAG"), without such an exemption or relaxed standard, the incentive for the EPA Green Lights program disappears and the costs companies incur will be significant.
RESPONSE
Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as universal waste. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule standards are less stringent than full Subtitle C management standards).

The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters, yet ensures that lamps are recycled or treated in an environmentally protective manner at Subtitle C hazardous waste facilities. Fewer hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and landfills 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). Once the lamps are properly treated and no longer

hazardous waste, the treated lamps may be disposed in a solid waste facility.

The universal waste rule ensures that releases 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., facilities that treat, dispose, or recycle universal wastes) are subject to all Subtitle C management requirements applicable to hazardous waste treatment, storage, and disposal facilities.

Furthermore, the regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights Program. The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN FLEP-00010
COMMENTER Wisconsin Public Service Corporation
SUBJECT GEN
COMMENT The EPA also needs to be aware that its estimate of generators affected by the regulation could be in error. For example, in Wisconsin, conditionally exempt generators may not dispose of hazardous waste in a Subtitle D landfill, as is allowed under the EPA rules. This rule is more stringent than the federal rule, and similar rules in other states may mean that Conditionally Exempt Small Quantity Generators must manage their wastes under full Subtitle C requirements. Therefore, the EPA's estimates of the numbers of generators affected by this ruling may be low.
RESPONSE
EPA's estimate of affected generators reflects the Agency's best estimate of the number of generators subject to the federal hazardous waste regulations, and does not include generators exempt under the federal regulations that may be subject to hazardous waste regulation due to more stringent state regulations. However, today's final rule provides for reduced regulatory requirements for the management of hazardous waste lamps for all generators under federal law.

Since today's rule is less stringent than the current regulatory program, States are not required to adopt the requirements. However, EPA encourages States to adopt the universal waste approach for hazardous waste lamps, and many have done so or are preparing to do so in the future.

DCN FLEP-00011
COMMENTER General Motors
SUBJECT GEN
COMMENT General Comments. The Agency is to be commended for its efforts to provide relief from full Subtitle C requirements for mercury-containing lamps, in order to encourage participation in the Green Lights program for energy efficient lighting. The resulting reduced consumption of electricity would in turn lead to reduced use of natural resources and subsequent pollution.
RESPONSE
The Agency appreciates the commenter's support of the proposed rule to streamline the regulatory requirements for the management of hazardous waste lamps while ensuring protection of the environment.

Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as universal waste. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule standards are less stringent than full Subtitle C management standards).

The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters, yet ensures that lamps are recycled or treated in an environmentally protective manner at Subtitle C hazardous waste facilities. Fewer hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and landfills 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 ensures that releases 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., facilities that treat, dispose, or recycle universal wastes) are subject to all Subtitle C management requirements applicable to hazardous waste treatment, storage, and disposal facilities.

Furthermore, the regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights Program. The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is

only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN FLEP-00013
COMMENTER Coors Brewing Company
SUBJECT GEN
COMMENT Coors Brewing Company is grateful for the opportunity to comment on the proposed rule addressing mercury-containing lamps (light bulbs) which appeared in the Federal Register/ Volume 59, Number 143/ Wednesday, July 27, 1994, starting on page 38288. Your rulemaking seeks, inter alia, comment on two alternative approaches for the management of mercury-containing lamps. First, Coors applauds this Agency initiative. We are among many firms with aggressive energy reduction/cost management programs and strive to use the most energy-efficient lighting possible. This, of course, leads to the use of lights containing mercury. Requiring the disposal of such lights or light wastes as hazardous waste has a chilling effect on energy-efficient lighting programs. EPA's enlightened approach to this rulemaking, in part as a means to promote the eventual achievement of the environmental benefits of such programs, is commendable.
RESPONSE
The Agency appreciates the commenter's support of the proposed rule to streamline the regulatory requirements for the management of hazardous waste lamps while ensuring protection of the environment.

Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as universal waste. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule standards are less stringent than full Subtitle C management standards).

The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters, yet ensures that lamps are recycled or treated in an environmentally protective manner at Subtitle C hazardous waste facilities. Fewer hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and landfills 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 ensures that releases 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., facilities that treat, dispose, or recycle universal wastes) are subject to all Subtitle C management requirements applicable to hazardous waste treatment, storage, and disposal facilities.

Furthermore, the regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights Program. The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN FLEP-00014
COMMENTER Diversey Corporation
SUBJECT GEN
COMMENT One concern is that if this is regulated as a hazardous waste that companies will estimate how many fluorescent bulbs can be discarded per month without exceeding the TCLP threshold and limit replacement of fluorescent bulbs to that amount. In addition, there are other sources of mercury such as batteries, thermometers that could have been disposed of in a municipal landfill.
RESPONSE
The commenter seems to be confusing "TCLP" threshold with the quantity threshold for determining generator status. Under the present full Subtitle C hazardous waste management system, mercury-containing lamps must be managed as hazardous waste if the lamps exhibit a hazardous waste characteristic, (e.g., exceed the toxicity characteristic (TC) regulatory threshold for mercury). The regulations at 40 CFR 261.5 provide that generators of less than 100 kilograms of total hazardous waste per month are not subject to full Subtitle C regulation. Facilities that generate hazardous waste lamps as their only hazardous waste are exempt from hazardous waste regulation if they generate less than 100 kg of hazardous waste lamps (approximately 300-350 bulbs) in a calendar month.

The Agency also notes that hazardous waste batteries may be managed in accordance with the universal waste regulations at 40 CFR Part 273 or in accordance with the standards in 40 CFR Part 266 Subpart G.

DCN FLEP-00015
COMMENTER USPCI
SUBJECT GEN
COMMENT EPA indicates that it plans to propose mercury emissions limits for MSW incinerators during 1994. However, no mention is made of BIFs. USPCI believes that this is a glaring oversight which must be addressed.
RESPONSE
Simultaneously with the effort to modify the management of hazardous waste lamps, the Agency has been actively pursuing regulation of mercury air emissions from a wide variety of other sources. On December 19, 1995, EPA issued a final rule limiting emissions of mercury and other pollutants from large municipal waste combustors (60 FR 65387). Subsequently, on September 15, 1997, EPA issued a final rule setting emission limits for mercury (and other pollutants) for medial waste incinerators (62 FR 48348) (remanded for further explanation, *Sierra Club v. EPA*, 167 F.3d 658 (D.C. Cir. 1999)). In addition, the Agency finalized a rule that sets performance standards for new municipal solid waste landfills (MSWLF) and emission guidelines for existing MSWLF (61 FR 9905 (March 12, 1996)). Lastly, on April 19, 1996, the Agency proposed a rule that would limit emissions of various air pollutants, including mercury, from hazardous waste incinerators, cement kilns, and lightweight aggregate kilns (61 FR 17358, finalized in part, 63 FR 33782 (June 19, 1998)). In the future, EPA is planning to propose two rules to address (1) air emissions from industrial and commercial incinerators that burn non-hazardous waste, and (2) boilers that burn hazardous waste.

DCN SCSP-00022
COMMENTER MRT System
SUBJECT GEN
COMMENT Today, there is a tremendous interest among Environmental people and organizations on what to do with the spent tubes.
Personally, I have had speeches during the past two years for US EPA at your Household Hazardous Waste Management conferences in Seattle and Minneapolis. Tours have also been arranged to an MRT installation (Recyclights in Minneapolis) in commercial use. We have also noticed that people involved in the Green lighting program in the US, would welcome recycling of spent tubes and HIDs in that program. Even retailers in general would welcome guidelines like that. In contradiction to NEMA, many companies feel that if the industry promote recycling by using well proven technology, it can be an advantage for them, as it shows their environmental concern in full. This could lead to even more sales and a more rapid implementation of the Green lighting program. Such advertisement has been made by lamp manufactures in Europe. I have carefully studied the NEMA report issued the

18th of January, 1993. I will not comment on that in detail, but I can guarantee that many statements in that report are not correct. Most of the NEMA people are also aware of that, as they have made studies of different recycling facilities in Europe. They know that sufficient collection system works and that true recycling and well proven technologies are in commercial use. But NEMA's strategy is to neglect the mercury problems in lamps as they are afraid to be forced to take responsibility for their consumed products. For your information, I enclose in Annex No.6 a minor portion of correspondence with them. I have underlined the important comments to them and their response. A strange behavior from them has been that they make some statements and thereafter investigate if the statement was correct or not. This is a dangerous behavior and misleading statements will certainly hit back on them in the long.

I hope my comments on this issue will be of value for US EPA and I really hope that we will see a decision and regulations soon in the same environmental direction as now is taking in Europe and elsewhere.

RESPONSE

The Agency thanks the commenter for submitting comments and additional information addressing issues raised in the proposed rule. The Agency appreciates the commenter's support of the proposed rule to reduce the regulatory requirements for the management of hazardous waste lamps while ensuring environmental protection.

Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as universal waste. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule standards are less stringent than full Subtitle C management standards).

The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters, yet ensures that lamps are recycled or treated in an environmentally protective manner at Subtitle C hazardous waste facilities. Fewer hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and landfills 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 ensures that releases 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., facilities that treat, dispose, or recycle universal wastes) are subject to all Subtitle C management requirements applicable to hazardous waste treatment, storage, and disposal facilities.

DCN FLEP-00023
COMMENTER Kmart Corporation
SUBJECT GEN
COMMENT Notwithstanding Kmart Corporation's commitment to environmentally responsible energy consumption and waste management practices, it is constantly challenged by the dynamic, complex, and sometimes contradictory and inconsistent nature of federal, state, and local environmental regulations. Kmart Corporation generally supports the EPA's efforts to re-evaluate certain waste management practices and propose regulations which are commensurate with risks associated with the safe and efficient management of certain hazardous wastes. As acknowledged by the EPA in the proposed rule's preamble, full Subtitle C regulation is unnecessary for the proper management of certain low-risk hazardous waste such as mercury-containing lamps. Kmart Corporation concurs with the Agency's conclusion that current RCRA full Subtitle C requirements unnecessarily impose regulatory burdens without a commensurate incremental benefit to the safe and efficient disposal of mercury-containing lamps.
RESPONSE
Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as universal waste. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule standards are less stringent than full Subtitle C management standards).

The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters, yet ensures that lamps are recycled or treated in an environmentally protective manner at Subtitle C hazardous waste facilities. Fewer hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and landfills 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 ensures that releases 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., facilities that treat, dispose, or recycle universal wastes) are subject to all Subtitle C management requirements applicable to hazardous waste treatment, storage, and disposal facilities.

DCN FLEP-00024
COMMENTER EG&G Rocky Flats, Inc.
SUBJECT GEN
COMMENT COMMENTS ON MANAGEMENT PRACTICE RESTRICTIONS FOR THE DISPOSAL OF FLUORESCENT LIGHT BULBS - ALS-331-94 On July 27, 1994 (59 FR 38288), your organization presented in a Notice of Proposed Rulemaking (NPR), two options for managing spent mercury-containing lamps. The first option, the "Conditional Exclusion," would exclude the lamps from all full Subtitle C management requirements, provided the lamps were disposed of in state-permitted municipal solid waste (MSW) landfills or recycled in state permitted, licensed, or registered mercury reclamation facilities. The second option, the "Special Collection System," would regulate the lamps as "universal hazardous waste" subject to the special collection system standards. EG&G Rocky Flats, Inc. applauds the United States Environmental Protection Agency's (EPA's) efforts to clarify and improve the requirements for managing fluorescent light bulbs.
RESPONSE
The Agency appreciates the commenter's support of the proposed rule to reduce the regulatory requirements for the management of hazardous waste lamps. Today's final rule ensures protection of the environment while allowing flexibility in the management of hazardous waste lamps.

Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as universal waste. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule standards are less stringent than full Subtitle C management standards).

The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters, yet ensures that lamps are recycled or treated in an environmentally protective manner at Subtitle C hazardous waste facilities. Fewer hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and landfills 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 ensures that releases 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., facilities that treat, dispose, or recycle universal wastes) are subject to all Subtitle C management requirements applicable to hazardous waste treatment, storage, and disposal facilities.

DCN FLEP-00028
COMMENTER Institute of Real Estate Mgmt.
SUBJECT GEN
COMMENT The EPA's voluntary energy conservation program, Green Lights, has made significant strides in promoting energy efficiency within the real estate industry. In accordance with the EPA, IREM supports the popular use of fluorescent lamps as an energy-efficient alternative to conventional lamps. The Institute recognizes the health and environmental hazards resulting from careless waste disposal of mercury-containing products and supports all reasonable efforts to control it. This proposed ruling, however, introduces largely unnecessary management procedures and record keeping for lamp disposal which the EPA labels as producing a minimal impact on the environment. In light of the mercury-containing lamp disposal options presented by the EPA, IREM brings forth the following concerns:
RESPONSE
The Agency appreciates the commenter's support of energy-efficient lighting programs such as Green Lights. EPA's Green Lights Program encourages corporations to install energy-efficient lighting technologies. Corporations that make the commitment to lamp replacement programs profit by lowering their electricity costs and improving lighting quality. Participation in energy-efficient lighting programs also reduces emissions of carbon dioxide, sulfur dioxide, and nitrogen oxides, in addition to potential emissions of metals such as mercury associated with power plants generating electricity. For the reasons discussed in today=s preamble, this final rule will not affect participation in the Green Lights program.

The Agency disagrees with the commenter=s statement that the proposed rule would introduce largely unnecessary management procedures and recordkeeping for lamp disposal. The EPA also disagrees that lamp disposal (especially improper disposal) produces Aminimal@ effects on the environment. The Agency notes that the regulatory requirements of the universal waste rule applicable to handlers and transporters of universal waste are less complex than the full Subtitle C regulations. Universal waste handlers who generate or manage items designated as universal waste must follow streamlined standards for storing universal waste, labeling and marking waste

or containers, preparing and sending shipments of universal wastes off-site, employee training, and responses to releases. Universal waste transporters must comply with all applicable Department of Transportation regulations and ensure transportation of universal waste to a universal waste handler or a destination facility. Transporters of universal waste do not have to comply with RCRA hazardous waste manifest requirements.

DCN FLEP-00028
COMMENTER Institute of Real Estate Mgmt.
SUBJECT GEN
COMMENT D. Tenant Responsibility. This ruling does not address liability of the landlord for a tenant's removal and disposal of mercury-containing lamps. For example, in properties where the tenant is responsible for relamping, it is not clear whether the landlord will be held liable if a tenant replaces a bulb and throws it into the landlord's dumpster. E. Focus on More Urgent and Hazardous Environmental Matters. If finalized, this ruling will prove to be another regulatory overkill on an environmentally unthreatening issue. The current property industry demonstrates a impressive track record of current lamp disposal compliance and is presently confronted with much more pressing issues demanding the EPA's attention. Instead, the EPA should concentrate its efforts on remedying the health and environmental hazards caused by industrial waste, batteries, and coal-fired power plants, and requiring municipal waste incinerators to install post-combustion mercury controls. F. Potential Discouragement of Fluorescent Lamp Use. IREM is concerned that finalization of this ruling will ultimately discourage property owners and managers from using fluorescent lamps in order to avoid cumbersome disposal requirements. This may result in properties reverting to the use of more expensive incandescent lamps as in the past, which are less energy-efficient. This contradict the wise intentions of the EPA's Green Lights program.
RESPONSE
The commenter raises several issues pertaining to liability, regulatory burden, and disincentives for participation in EPA's Green Lights program. Although the rule does not affect generator liability for hazardous waste disposal, the Agency points out that the sort of routine replacement of lamps described by the commenter will usually fall under the exemption for conditionally exempt small quantity generators (40 CFR ' 261.5) or under the household waste exemption (40 CFR ' 261.4(b) (1)).

The Agency disagrees with the commenter=s statement that the proposed rule would introduce

largely unnecessary management procedures and recordkeeping for lamp disposal. The EPA also disagrees that lamp disposal (especially improper disposal) produces Aminimal@ effects on the environment. The Agency notes that the regulatory requirements of the universal waste rule applicable to handlers and transporters of universal waste are less complex than the full Subtitle C regulations. Universal waste handlers who generate or manage items designated as universal waste must follow streamlined standards for storing universal waste, labeling and marking waste or containers, preparing and sending shipments of universal wastes off-site, employee training, and responses to releases. Universal waste transporters must comply with all applicable Department of Transportation regulations and ensure transportation of universal waste to a universal waste handler or a destination facility. Transporters of universal waste do not have to comply with RCRA hazardous waste manifest requirements.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN FLEP-00031
COMMENTER Potomac Electric Power Co.
SUBJECT GEN
COMMENT Pepco commends the Agency for its efforts to modify the RCRA hazardous waste program to reflect actual waste management practices, and to redirect the program towards the regulation of high-risk wastes while removing low-risk wastes from full Subtitle C regulation. To that end, the issue of fundamental importance before the Agency in this proposal is which option at once fully supports the Agency's program and protects the environment: (1) conditional exclusion for mercury-containing lamps from Subtitle C regulation, or, (2) inclusion of mercury-containing lamps in its Universal Waste Proposal (58 FR 8102, February 11, 1993).
RESPONSE
The Agency appreciates the commenter's support of the proposed rule to streamline the regulatory requirements for the management of hazardous waste lamps while maintaining environmental protection. Today's final rule ensures protection of the environment while allowing flexibility in the management of hazardous waste lamps.

Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as universal waste. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule standards are less stringent than full

Subtitle C management standards).

The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters, yet ensures that lamps are recycled or treated in an environmentally protective manner at Subtitle C hazardous waste facilities. Fewer hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and landfills 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 ensures that releases 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., facilities that treat, dispose, or recycle universal wastes) are subject to all Subtitle C management requirements applicable to hazardous waste treatment, storage, and disposal facilities.

DCN FLEP-00032
COMMENTER Niagara Mohawk
SUBJECT GEN
COMMENT 1. The EPA is currently seeking comment on two alternative approaches for the management of lighting waste. The first option would exclude mercury containing lamps from hazardous waste regulation altogether contingent upon disposing of the lamps in the state approved municipal solid waste landfill or sending the bulbs to a state approved mercury reclamation facility. Under the second option lighting waste would remain in the full Subtitle C system but would be subject to the relaxed collection and storage standards contained in the universal waste rule to be issued by the EPA in the future. The second option would encompass all spent hazardous waste lamps. In addition, the EPA also suggests that it could combine the two above-referenced options: exclude mercury containing waste lamps from hazardous waste regulation and include all other lighting waste in the universal waste rule. The EPA has requested comment on which of the above options would be the most appropriate. NMPC again commends the EPA on their efforts in developing such a proposed rule. We encourage promulgation of additional rules for other lighting wastes along with the finalization of the universal waste rule. We hope you consider our comments in finalizing the rule for Mercury-Containing Lamps.

RESPONSE
The Agency thanks the commenter for submitting comments and additional information addressing issues raised in the proposed rule.

Today's final rule adds all hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet most of the criteria established for designating a material as universal waste. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule standards are less stringent than full Subtitle C management standards).

DCN FLEP-00037
COMMENTER Central Iowa Power Cooperative
SUBJECT GEN
COMMENT Thank you very much for this opportunity to comment on your proposals. We support you in your continuing efforts to find reasonable approaches for disposal of mercury-containing lamps.
RESPONSE
The Agency appreciates the commenter-s support of the hazardous waste lamp rulemaking.

DCN SCSP-00040
COMMENTER University of Nevada-Reno
SUBJECT GEN
COMMENT Studying risks posed by fluorescent tubes in municipal waste rather than enforcing the existing regulations or providing an exemption from them is an example of EPA's uneven and preferential enforcement or non-enforcement of waste management regulations (which waste generators are subject to under the law). This approach creates a great deal of confusion and uncertainty in the regulated community. Those who are attempting to comply with the letter of the law are placed at a competitive disadvantage when EPA does not apply those laws uniformly and as codified to the regulated community. If Part 273 provisions are not developed for possible universal wastes, by default, existing regulations would apply to proper management of these wastes. EPA should either uniformly and consistently impose the existing regulations or provide an exemption.
RESPONSE
By adding hazardous waste lamps to the universal waste rule, 40 CFR Part 273, today's final rule ensures protection of the environment while allowing flexibility in the management of hazardous waste lamps. The universal waste rule provides a reduced, or streamlined set of requirements but also allows the Agency to control potential emissions of mercury and other hazardous constituents.

Adding hazardous waste lamps to the scope of the universal waste rule will improve waste management practices for lamps. The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters. 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 Agency expects that today-s rule will reduce current confusion over the regulatory status of spent lamps at the federal level and EPA believes that the universal waste approach is easier to implement and enforce than the states had either adopted the universal waste approach for spent lamps or are planning to do so in the future.

DCN FLEP-00042
COMMENTER Entergy Services, Inc.
SUBJECT GEN
COMMENT SUMMARY As the Agency is well aware, Entergy and other utilities strongly support the intent of the proposed changes, since current management requirements subject lighting wastes to undue disposal constraints. A summary of Entergy's position on this matter is set forth below followed by a more detailed discussion of the following concerns.
RESPONSE
Comment noted.

DCN FLEP-00059
COMMENTER Connecticut Dept. of Env. Protection
SUBJECT GEN
COMMENT 3. DEP believes EPA should include in the final rule an evaluation of the lead component of spent lamps, especially high intensity discharge (HID) lamps. The evaluation should also consider the recycling technology and market viability for the lead component of lamp wastes, and how this might impact the universal waste rule approach. The management of mercury containing lamps has been an issue of considerable inquiry by the regulated community in Connecticut. DEP supports the effort of EPA to establish a nationwide policy and hopes to see a final rule in the near future. If there are any questions or additional information is needed on this matter, please call Robert Lorentson at (203) 566-8256.
RESPONSE

For the reasons discussed in today-s preamble, EPA has concluded that all hazardous waste lamps (including those that exhibit the toxicity characteristic for lead or any other hazardous waste characteristic) are appropriately included in the universal waste approach. Therefore, today-s rule adds all hazardous waste lamps to the scope of the universal waste rule (40 CFR Part 273).

DCN FLEP-00062
COMMENTER Phillips Petroleum Company
SUBJECT GEN
COMMENT Phillips supports EPA's initiative to re-evaluate the management of mercury-containing lamps and agrees that the use of energy efficient lighting can reduce mercury emissions from coal-burning power plants as well as emissions of carbon dioxide and sulfur oxide.
RESPONSE
The Agency appreciates the commenter-s support of the hazardous waste lamp rulemaking.

DCN FLEP-00072
COMMENTER Georgia Hall
SUBJECT GEN
COMMENT 1. Lead should be listed with mercury when discussing fluorescent bulbs because High Intensity Discharge bulbs contain mercury and they also contain lead which we have had to remove from children's toys, rooms and any house before the government will help finance it.

7. We have always been taught that mercury is poisonous. Have we been taught wrong? 8.How can we justify reducing energy to cut the amount of mercury produced by the utility companies and allow businesses to put mercury back into our ground, the water system and the air. 9. What will employees do in the future when they learn how dangerous mercury and lead has been to their health? Will we have another Asbestos crisis on our lands with numerous lawsuits. So Please find a way that we will can protect our children and ourselves. Businesses will pay by recycling or paying a superfund claim to clean up the landfill.
RESPONSE
For the reasons discussed in today-s preamble, EPA has concluded that all hazardous waste lamps (including those that exhibit the toxicity characteristic for lead or any other hazardous waste characteristic) are appropriately included in the universal waste approach. Therefore, today-s rule adds all hazardous waste lamps to the scope of the universal waste rule (40 CFR Part 273).

The Agency acknowledges the commenter's concern about mercury releases in the environment.

EPA believes that the management requirements finalized today for hazardous waste lamps provide adequate protection of human health and the environment. The universal waste rule ensures that releases 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., facilities that treat, dispose, or recycle universal wastes) are subject to all Subtitle C management requirements applicable to hazardous waste treatment, storage, and disposal facilities.

DCN FLEP-00078
COMMENTER Tennessee Valley Authority
SUBJECT GEN
COMMENT The regulatory status of lighting waste is of considerable interest to TVA.
RESPONSE
EPA appreciates the Commenter=s interest in the hazardous waste rulemaking.

DCN FLEP-00078
COMMENTER Tennessee Valley Authority
SUBJECT GEN
COMMENT Generator Status - On page 38290 of the notice, EPA states that a generator of more than 350 lamps would be a large quantity generator. More than 1,000 kg/month of hazardous waste must be generated to be a fully regulated generator. This is a generation rate of approximately 3,500 lamps per month.
RESPONSE
Under the present hazardous waste regulations, generators that generate less than 100 kilograms of hazardous waste (approximately 350 lamps) in a calendar month are *conditionally exempt* small quantity generators, thus not subject to full Subtitle C hazardous waste regulations. Generators that generate greater than 100 kilograms of hazardous waste in a calendar month are subject to regulation as a small or a large quantity generator, both of which are subject to storage, transportation, disposal, and land disposal restrictions requirements. The Agency did not intend to overlook the requirements for small quantity generators (i.e., facilities that generate between 100 and 1,000 kg of hazardous waste in a calendar month) who remain subject to regulation under full Subtitle C.

Today's final rule will have the effect of allowing all generators of hazardous waste lamps to manage their lamps under streamlined standards. Generators of universal waste fall into one of two categories of universal waste handlers. Generators who do not accumulate more than 5,000 kilograms of universal waste at any one time are defined as small quantity handlers of universal waste. Generators who accumulate 5,000 kilograms or more of universal waste at any one time

are defined as large quantity handlers of universal waste. Most of the handling standards for both small and large quantity handlers are the same under the universal waste rule and are significantly reduced compared to the hazardous waste management standards under full Subtitle C. However, large quantity handlers of universal wastes are required to notify EPA of their waste management activities and receive an EPA Identification number. In addition, large quantity handlers of universal waste are required to retain records of shipments of universal waste received from other handlers and shipments of universal waste sent off-site.

DCN FLEP-00080
COMMENTER City of Colorado Springs
SUBJECT GEN
COMMENT Third, the regulated community is being strangled by the volume and complexity, in addition to the cost, of new environmental regulation. Any addition to the myriad of regulation must be accompanied by a credible documented threat to human health and the environment rather than mere speculation that a threat may exist.
RESPONSE
EPA believes that the potential for mercury releases to harm human health and the environment has been well documented. In addition, the Agency notes that the regulatory requirements of the universal waste rule applicable to handlers and transporters of universal waste are less complex than the full Subtitle C regulations. Universal waste handlers who generate or manage items designated as universal waste have to follow streamlined standards for storing universal waste, labeling and marking waste or containers, preparing and sending shipments of universal wastes off-site, employee training, and response to releases. Universal waste transporters must comply with all applicable Department of Transportation regulations and ensure transportation of universal waste to a universal waste handler or a destination facility. Transporters of universal waste do not have to comply with RCRA hazardous waste manifest requirements.

DCN FLEP-00082
COMMENTER Square D Company
SUBJECT GEN
COMMENT 2 .The hazardous waste listing for mercury containing lamps has not been scientifically justified.
RESPONSE
The Agency notes that mercury-containing lamps are not specifically listed in EPA regulations as a hazardous waste. Spent lamps are hazardous waste only if they fail the TLCP for merucry or any other hazardous waste characteristic.

Today-s rule adds hazardous waste lamps to the scope of the universal waste rule (40 CFR Part 273). For the reasons discussed in today-s preamble, EPA has concluded that all hazardous waste lamps (including those that exhibit the toxicity characteristic for lead or any other hazardous

waste characteristic) are appropriately included in the universal waste approach. Therefore, today-s rule adds all hazardous waste lamps to the scope of the universal waste rule (40 CFR Part 273).

DCN FLEP-00088
COMMENTER S.C. Johnson and Son, Inc.
SUBJECT GEN
COMMENT SC Johnson has read the above referenced proposed package with interest. To summarize the proposal, it offers two plans regarding the management of mercury- containing lamps. The first plan would exclude mercury-containing lamps from the hazardous waste regulation program, provided that such lamps upon disposal would be managed at EPA approved municipal landfills or managed in approved mercury reclamation facilities. The second plan would add mercury-containing lamps to the Universal Waste Proposal, which has more burdensome and lengthy requirements.
RESPONSE
The Agency appreciates the commenter-s interest in the hazardous waste lamp rulemaking.

DCN FLEP-00126
COMMENTER Texas Natural Resource Cons. Comm.
SUBJECT GEN
COMMENT A large quantity of the mercury containing lights replaced in the federal "Green Lights Program" will be from households. The federal government may want to provide some funding to states to cover the cost to local governments of recycling these household lights and lights from government facilities. EPA should increase RCRA funding to the states to implement the new rule.
RESPONSE
The Agency appreciates the commenter-s interest in the Green Lights program. However, EPA points out that this program is voluntary in nature and (like today-s rule) affects only lamps from the commercial and industrial sectors, not from households. There are no required additional costs to local governments occasioned either by this rule or by the Green Lights program.

DCN FLEP-00130
COMMENTER U.S. Department of Energy
SUBJECT GEN
COMMENT On July 27, 1994, the Environmental Protection Agency (EPA) published a Notice of Proposed Rulemaking (NPRM) and request for comment regarding possible regulatory options for mercury containing lamps. Specifically, EPA proposes including mercury containing lamps in the "universal waste" collection system that

was proposed for certain batteries and pesticides on February 11, 1993 (58 FR 8102) or exempting mercury containing lamps that are disposed in permitted landfills or sent to permitted mercury reclamation facilities. The Department of Energy (DOE) would like to take this opportunity to submit the enclosed Comments in response to this NPRM.

RESPONSE

The Agency thanks the commenter for submitting comments and additional information addressing issues raised in the proposed rule. Today's final rule adds hazardous waste lamps to the scope of the universal waste rule (40 CFR Part 273).

DCN FLEP-00130

COMMENTER U.S. Department of Energy

SUBJECT GEN

COMMENT 4. In comments submitted to EPA on proposed revisions to RCRA public participation and combustion permitting procedures (59 FR 28680-28711; June 2,1994), DOE commended EPA for providing a detailed discussion of the relationship of environmental justice issues and concerns to the proposed rule. DOE believes that EPA should examine the environmental justice issues associated with this proposed rule. One of the goals of the proposed rule is to encourage the regulated community to use efficient lighting technologies to reduce air pollution from coal-fired power plants. Existing research sponsored by DOE and performed by researchers from Argonne National Laboratory suggests that African and Hispanic Americans are at substantially greater risk, relative to non-Hispanic White Americans, of being exposed to air pollutants at unsafe level. Increased use of efficient lighting technologies would decrease these emissions and reduce this risk. Existing research and anecdotal information also suggests that minorities are also disproportionately exposed to the risks posed by living in close proximity to municipal solid waste incinerators, landfills, and recycling facilities. Promulgation of a hazardous waste exemption for mercury-containing light bulbs or of a universal waste management system would appear to increase this risk. From the information presented above, it appears that assessing the relationship of the proposed rule options to environmental justice concerns is not straightforward. However, DOE believes that it is just as important for EPA to raise the issue of environmental justice and encourage public comment when the implications of a proposed rule are unclear or contradictory as

when they clearly help to mitigate or address an unjust situation. In developing a final rule, DOE encourages EPA to consider and evaluate the environmental justice impacts of the rule.

RESPONSE

The Agency appreciates the commenter=s concern about environmental justice issue, and agrees with the commenter=s view that the final rule should encourage the use of efficient lighting technologies.

Regarding the environmental justice concern, the Agency believes that no disproportionate impacts for low-income or minority communities will result from the promulgation of today=s final rule, for the following reasons:

(1) The environmental impact on any particular community of the final universal waste action is small. The 10-year modeling period projects a net decrease in emissions (low compliance scenario) of approximately 30 kilograms under the universal waste final action. The conditional exclusion option would have shown an increase (approximately 105 kg) in mercury emissions over 10 years. In either case, the wide distribution of mercury emissions is unlikely to create significant impacts on any particular community.

(2) The distribution of the municipal waste combustors and recycling facilities throughout minority and/or low income counties in the United States does not suggest any distributional pattern around communities of concern. Lamps crushing, legal or illegal, is difficult to measure because any building in any area is a potential source. Specific impacts on low income or minority communities, therefore, are undetermined. The Agency believes that emissions during transportation would not be a major contributor to communities of concern through which lamps may be transported. Any lamps broken during transport would be contained in the packaging. The Agency recognizes, however, the potential for some increased risk to transportation workers. Overall, no disproportional impacts to minority and/or low income communities are expected.

DCN FLEP-00130

COMMENTER U.S. Department of Energy

SUBJECT GEN

COMMENT 5. DOE is interested in the potential relationship of the proposed regulation to other regulatory initiatives (i.e, the Hazardous Waste Identification Rule (HWIR), and the revisions to the Definition of Solid Waste to eliminate disincentives to recycling. EPA is proposing a conditional exemption from the RCRA definition of hazardous waste, as it is currently defined using the toxicity characteristic. Also, EPA is planning to remove disincentives to recycling under RCRA. Such alterations to the regulations could likely impact the mercury-lamp waste stream. Because of these pending regulatory changes, DOE

asserts that it is difficult for the regulated community to prepare meaningful comments on specific regulatory options concerning the management of the affected waste stream, without knowing its future regulatory status (i.e., how lamps will be classified under a system other than the toxicity characteristic).

RESPONSE

The Agency understands that the simultaneous development of different rulemakings can sometimes be confusing for the regulated community. However, EPA points out that none of the suggested revisions to the definition of solid waste would affect the inclusion of hazardous waste lamps in the universal waste rule (the subject of today's rulemaking). Similarly, the HWRI rule addresses only listed hazardous wastes such as spent lamps that are hazardous by virtue, of exhibiting a hazardous waste characteristic. Studies on possible versions to the toxicity characteristic leading procedure (TCLP) are ongoing. If any of these studies result in proposed changes to the classification of hazardous waste lamps, the Agency will solicit comments from the regulated community at that time.

DCN FLEP-00134

COMMENTER Aetna Life and Casualty Company

SUBJECT GEN

COMMENT To begin, Aetna is supportive of the intent behind the proposed rule making -- limiting mercury emissions to the environment. Aetna further applauds the USEPA approach to managing mercury-containing lamps in a consistent and uniform manner through the rule making process. Given the ubiquitous nature of mercury-containing lights and the sometimes contradicting analytical results from toxicity characteristic ("TC") analyses, requiring, one standard management method of all generators for these items makes sense.

RESPONSE

EPA expects that today's final rule may reduce much of the current confusion over the regulatory status of spent lamps. Under today's rulemaking, hazardous waste lamps may be managed in compliance with the universal waste rule. This rule ensures protection of the environment while reducing the regulatory burden for generators previously required to manage spent lamps in accordance with the full Subtitle C hazardous waste regulations. Generators of hazardous waste lamps are now subject to reduced regulatory requirements which provide a simple and consistent management approach to facilitate the proper disposal or recycling of hazardous waste lamps.

Although individual states may have more stringent requirements for the management of this waste, the Agency encourages states to adopt the universal waste approach for hazardous waste lamps. Many states have either adopted this approach or are planning to do so in the future.

DCN SCSP-00135
COMMENTER New York Dept. of Environ. Conservation
SUBJECT GEN
COMMENT This analysis shows the need to remediate the Rock dump in order to protect the adjacent wetland, ponds and stream from further contamination with toxics that can be harmful to both invertebrates and vertebrates. The mercury contamination is an important threat to the biota of the area. I continue to be very disappointed with the seeming lack of meaningful movement toward remediating the Rock dump and other similar sites (e.g. Moran, LaMunyan). It would appear that more aggressive and honest action on the part of DEC would be helpful in solving these environmental quagmires. At a recent environmental meeting, Attorney General Abrams expressed continued interest in "cleaning up" C&D dumps, and I would think that the Rock site would be an important one to pursue. Since DEC is moving almost imperceptibly at the Rock dump, some pressure from the Attorney General could be useful. I also think that the study done at the Rock Site under Tom Raeman needs to be fully examined for its scientific merit, and its design to meet the publics objective of getting Superfund money for the remediation. The Raeman study was at best incompetently designed to meet the public objective and at its worst a possible shame to support a DEC policy of doing essentially nothing about C&D dumps.
RESPONSE
Although this comment is beyond the scope of this rulemaking, the Agency appreciates the commenter-s concern.

DCN FLEP-00136
COMMENTER Wisconsin Dept. of Natural Resources
SUBJECT GEN
COMMENT 8.Provide the resources needed for the development of EPA-approved test methods for air and water, specifically, a stack test protocol including the speciation of mercury and improved water test methods with lower levels of detection for mercury. 9. Allow use of alternative test methods or analytical equipment which do not use mercury in laboratory analyses. Examples-of mercury reagent use in the environmental field include Kjeldahl nitrogen testing and chemical oxygen demand testing of water samples. 10.Evaluate those regulations and waste management practices which "encourage" or promote the incineration of mercury-containing wastes, and modify those to

eliminate, as possible, the option of incineration for these types of wastes. Examples include incineration of certain used dental and medical materials as infectious waste and RCRA's land ban on certain mercury-containing wastes. In addition, incentives should be developed and provided for the screening or municipal refuse that is incinerated to ensure that mercury-containing consumer products are not incinerated.

11.Ensure timely implementation of the action items defined in the recently released Great Waters Report required by the Clean Air Act, section 112(m), including: EPA should propose lesser-quantity emission rates for selected Great Waters hazardous air pollutants including mercury. EPA should propose a strict cap for the mercury de minimis level being developed under Section 112(g) considering bioaccumulative potential. EPA should continue to emphasis pollution prevention as the goal in the development of control measures to reduce emissions of mercury, EPA should continue to be involved with and support efforts of the Lake Superior Pollution Prevention Team.

12.Support the continued binational dialogue and cooperative efforts between the US and Canada. In the Lake Superior basin, this dialogue is occurring through the Binational Program, involving representatives from the Lake Superior Pollution Prevention Team and the Ontario Ministry of the Environment and Energy and Environment Canada. The Lake Superior Pollution Prevention Team will continue to work on pollution prevention strategies and efforts at the local and regional level. We believe the effort the Virtual Elimination Pilot Project has undertaken is critical co pursuing broader Great Lakes basin, national and even international issues. The team looks forward to a continued exchange of information and cooperative, coordinated efforts as we each move forward on our common goal of eliminating mercury from the Great Lakes.

RESPONSE

The Agency appreciates the commenter's suggestions for reducing the amount of mercury that is released to the environment. With regard to the commenter's request for analytical test methods, EPA provides guidance for laboratory test methods in Test Methods for Evaluating Solid Waste, (SW-846). This guidance includes test methods for mercury-contaminated media (e.g., Methods 7470, 7471). Update III to SW-846 includes several revisions that address the commenter's concerns, including a modification to the Kjeldahl nitrogen test method to eliminate the use of mercury.

EPA continues to support the efforts of the Lake Superior Pollution Prevention Team as well as

other Great Lakes: Projects. In addition, EPA completed a comprehensive study of mercury and its effects on the environment in response to a directive from Congress. The results of that study were published in a Mercury Study Report to Congress (December 1997) that examines many of the health effects resulting from mercury exposure.

To further EPA's pollution prevention goal, EPA encourages facilities to participate in energy-efficient lighting programs such as Green Lights, which will reduce the amount of air emissions produced by electricity generation plants. Electric utility plants are one of the biggest sources of mercury emissions. Studies have shown that participation in energy-efficient lighting programs such as Green Lights reduces mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation. The amount of air emissions produced from the generation of electricity will continue to decrease with additional declines in the demand for electricity due to participation in energy-efficiency programs.

DCN FLEP-00137
COMMENTER Planned Lighting, Inc.
SUBJECT GEN
COMMENT Planned Lighting feels that it is advisable that the EPA take a strong leadership role on the lamp disposal issue to assure universal regulation across the country and avoid each state adopting their own regulatory plans. Confusion as to which regulations apply where, would make it difficult to advise our customers as to their approach of handling this problem. This confusion would apply to the waste generators as well as their clients and would delay the achievement of the environmental goal of reducing air emissions from electric power generation through implementation of broad-scale energy efficient lighting programs. Currently many waste generators continue to dispose of mercury containing lamps in an unregulated waste stream, due to just such confusion. When a uniform national approach is implemented we will be able to properly educate our customers on the proper handling of spent lamps.
RESPONSE
EPA expects that today's final rule will reduce much of the current confusion over the regulatory status of spent lamps. Under today's rulemaking, hazardous waste lamps may be managed in compliance with the universal waste rule. This rule ensures protection of the environment while reducing the regulatory burden for generators previously required to manage spent lamps in accordance with the full Subtitle C hazardous waste regulations. Generators of hazardous waste lamps are now subject to reduced regulatory requirements which provide a simple and consistent management approach to facilitate the proper disposal or recycling of hazardous waste lamps.

Although individual states may have more stringent requirements for the management of this

waste, the Agency encourages states to adopt the universal waste approach for hazardous waste lamps. Many states have either adopted this approach or are planning to do so in the future.

DCN SCSP-00140
COMMENTER Advanced Environmental Recycling Corp.
SUBJECT GEN
COMMENT Many states have concerns with the disposal of mercury in municipal combustors and same states, including the States of Minnesota and Florida, actively discourage their disposal in incinerators. According to page 28 of the Clean Water report: "The total estimated amount of mercury emissions from municipal waste incinerators for 1991 is over 95,000 pounds, almost a 5% increase from 1989 estimates of 91,600 pounds." The authors declare that "future emission rates will depend on a number of decisions made by federal, state and local governments and industry. 11 The decision by EPA whether or not to add fluorescent lights to the final rule is one of the decisions that will determine future emission rates of mercury from municipal incinerators.
RESPONSE
The Agency shares the commenter=s concerns about the disposal of mercury in municipal combustors. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as universal waste. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule standards are less stringent than full Subtitle C management standards).

The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters, yet ensures that lamps are recycled or treated in an environmentally protective manner at Subtitle C hazardous waste facilities. Fewer hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and landfills 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-00143
COMMENTER A-TEC Energy Corporation
SUBJECT GEN
COMMENT A national policy regarding lamp disposal which is easily understood and easy to comply with would be of tremendous benefit to multi-state businesses as they attempt to comply with environmental regulations.

RESPONSE
EPA expects that today=s rule will reduce much of the current confusion over the regulatory status of spent lamps. Under today's rulemaking, hazardous waste lamps may be managed in compliance with the universal waste rule. Today's rule ensures protection of the environment while reducing the regulatory burden for generators previously required to manage spent lamps in accordance with the full Subtitle C hazardous waste regulations. Generators of hazardous waste lamps are now subject to reduced regulatory requirements which provide a simple and consistent management approach to facilitate the proper disposal or recycling of hazardous waste lamps.

Although individual states may have more stringent requirements for the management of this waste, the Agency encourages states to adopt the universal waste approach for hazardous waste lamps. Many states have either adopted this approach or are planning to do so in the future.

DCN SCSP-00146
COMMENTER Advanced Environmental Recycling Corp.
SUBJECT GEN
COMMENT Currently, there is a state of total uncertainty based on inconsistent policies and procedures within the states, the federal government, and the regulated community. Although these issues go beyond appropriate handling of these materials as waste product, based on air and water emissions, the USEPA has the opportunity to solve at least one part of the mercury emission problem. A comprehensive approach should never create one problem to potentially solve another. This statement is directed to the USEPA's apparent consideration of allowing fluorescent lamps and mercury- containing devices into Subtitle D landfills. This concept, from an environmental perspective, is unacceptable and makes absolutely no sense at all. The USEPA must consider the potential releases to both air and ground, while putting any type of mercury- containing device into a landfill environment. These issues are reviewed in greater detail in future sections.

Lighting Industry Positions - Since our inception, AERC has been actively involved with individual members of the lighting manufacturing industry and their trade association, the National Electrical Manufacturers Association (NEMA). We have, quite frankly, been perplexed by the dormant position of the industry based on the chronological correspondence and conversations with individual members. The lighting industry is clearly sending out mixed signals on their positions on Universal Waste and the best method for handling waste fluorescent lighting products. One of

the individual members of NEMA has also communicated mixed signals. These communications have included changing corporate mandates concerning comprehensive recycling programs, the evaluation of purchasing recycled lighting products, and the addition of turnkey services (including recycling) to the lighting sales program. Their focus has centered around the full Subtitle C or D issue; as detailed, we believe there is no issue here. For the purpose of these comments, AERC will not provide additional specifics or detail on this topic. AERC does request that the USEPA evaluate their own chronological file. NEMA, as well as individual members of the lighting industry, have been extremely helpful to AERC during the start-up activities. This is not only greatly appreciated, but also confusing.

RESPONSE

In today=s rule, the Agency is not finalizing the conditional exclusion option for the management of hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as universal waste. The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters, yet ensures that lamps are recycled or treated in an environmentally protective manner at Subtitle C hazardous waste facilities.

The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters, yet ensures that lamps are recycled or treated in an environmentally protective manner at Subtitle C hazardous waste facilities. Fewer hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and landfills 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).

Although individual states may have more stringent requirements for the management of this waste, the Agency encourages states to adopt the universal waste approach for hazardous waste lamps. Many states have either adopted this approach or are planning to do so in the future.

DCN FLEP-00149

COMMENTER Weyerhaeuser Company

SUBJECT GEN

COMMENT Weyerhaeuser's policy has for a long time been to use the most energy-efficient and cost effective means in managing our lighting needs. We realize the potential problem concerning the levels of mercury in the lamps could pose potential environmental contamination. However, both options outlined in

the proposed regulation, present burdensome requirements and undefined areas to properly manage the lamps. Several studies have concluded that the total leachable mercury from Municipal Solid Waste Landfills (MSW) averages two-hundred and fifty times less than the Maximum Contamination Limits set by EPA. By 1995, the lighting industry is expected to reduce the mercury content by nearly sixty-five percent over the 1990 industry average. This will reduce even further the need to over-regulate the management of these lamps.

RESPONSE

Today=s rule adds hazardous waste lamps to the universal waste rule, 40 CFR Part 273. The Agency notes that the regulatory requirements of the universal waste rule applicable to handles and transporters of universal waste are less complex than the full Subtitle C regulations. Universal waste handlers who generate or manage items designated as universal waste have to follow streamlined standards for storing universal waste, labeling and marking waste or containers, preparing and sending shipments of universal wastes off-site, employee training, and response to releases. Universal waste transporters must comply with all applicable Department of Transportation regulations and ensure transportation of universal waste to a universal waste handler or a destination facility. Transporters of universal waste do not have to comply with RCRA hazardous waste manifest requirements. However, destination facilities (i.e., facilities that treat, dispose, or recycle universal wastes) remain subject to all full Subtitle C management requirements applicable to permitted or interim status hazardous waste treatment, storage, and disposal facilities.

For the reason=s explained in today=s preamble EPA remains convinced that certain RCRA controls are needed to minimize releases of mercury into the environment. The Agency also has concerns about the potential for long-term releases from municipal solid waste landfills.

DCN FLEP-00152

COMMENTER American Bd of Neurological Surgery

SUBJECT GEN

COMMENT Lead, cerium, and cadmium compounds or doped complexes exposed to high energy mercury vapor induces ultraviolet A and B fluorescence used to tan or cure ink for printers. These powdery compounds contain as much as 2% lead which means that breaking a single fluorescent tube could result in someone aspirating a toxic quantity of lead, in addition to mercury vapor. It is my understanding that ultraviolet producing bulbs used in the tanning and medical arts are regulated by the Food and Drug Administration, e.g. strontium hexaborate: lead. (Appendix A) I do not know what, if any regulatory mechanisms are in place for the use of fluorescent materials used in the manufacture of

photocopying and printing machines which rely on floors such as barium metasilicate: lead (Appendix B) or strontium fluoroborate: Europium Activated. (Appendix C) Rarely are these tubes identified as containing lead or potentially toxic compounds. Large holes exist in our understanding of the toxicity of these compounds, either from direct contact or to the environment. It is likely that the high energy of the mercury vapor alters the chemical nature of the floors because fluorescence deteriorates over time, i.e. a fresh bulb produces less light than a light having burned for 20 hours. A copy of this letter has been sent to the Food and Drug Administration to aid in this investigation. Much effort is spent minimizing the potential risk ultraviolet light poses to humans by the FDA. It is not clear that the FDA is responsible for the potential safety hazards the bulbs pose to those handling them and the community in which the bulbs are disposed. I suspect this query will result in improved management of these toxic fluorescent light bulbs.

RESPONSE

The Agency thanks the commenter for the data on the chemical compounds contained in some fluorescent lamps. For the reasons discussed in today-s preamble EPA has concluded that hazardous waste lamps exhibiting the toxicity characteristics for other constituents than mercury or any other characteristics of hazardous waste are appropriately included in the universal waste approach. Therefore, today-s rule adds all hazardous waste lamps to the scope of the universal waste rule (40 CFR Part 273).

The universal waste rule ensures that releases 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., facilities that treat, dispose, or recycle universal wastes) are subject to all Subtitle C management requirements applicable to hazardous waste treatment, storage, and disposal facilities.

Although EPA has no jurisdiction over the use of fluorescent bulbs before they are discarded, the Agency notes that hazards in the workplace may be subject to requirements of the Occupational Safety and Health Administration (OSHA) of the U.S. Department of Labor.

DCN FLEP-00156
COMMENTER National Electrical Manufacturers Assn.
SUBJECT GEN
COMMENT The regulated community is also uncertain about its compliance

obligations because of EPA's failure to communicate them clearly. Unfortunately, some generators are sending their lamps to environmentally questionable recycling facilities under the mistaken impression that their liabilities are reduced.[10] (Footnote 10: The quality of environmental management varies widely within the lamp recycling industry. Generators should be made aware that liability attaches whether the lamps are recycled or landfilled.) And most significantly, the deterrence effect of EPA's enforcement presence is weakened in all aspects of the RCRA program by the poor enforcement example being set with respect to mercury-containing lamps.

RESPONSE

Today=s rule does not affect the potential liability of generators under RCRA. With respect to the quality of recycling facilities, the Agency also notes that today=s rule does not change any regulatory requirements applicable to destination facilities (i.e., recycling facilities and treatment and disposal facilities). Under today=s rule, those facilities are subject to all Subtitle C management requirements applicable to hazardous waste treatment, storage, and disposal facilities, although the Agency does not regulate the actual process of reclaiming mercury. In addition, recycling facilities (as well as Adownstream@ facilities that reuse the recycled products) must comply with all applicable Clean Air Act requirements, all applicable worker safety standards under the Occupational Safety and Health Administration (OSHA), and all applicable state controls (including possible best management practices or other controls on the recycling process).

Residuals from recovery operations must also 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 in accordance with all applicable hazardous waste management controls, including the requirements of 40 CFR Subpart C, standards for recyclable materials used in a manner constituting disposal.

The Agency expects that today=s rule will reduce current confusion over the regulatory status of spent lamps at the federal level and EPA believes that the universal waste approach is easier to implement and enforce than the States had either adopted the universal waste approach for spent lamps or are planning to do so in the future.

DCN FLEP-00156

COMMENTER National Electrical Manufacturers Assn.

SUBJECT GEN

COMMENT II. ORGANIZATION OF NEMA'S COMMENTS The remainder of this document presents NEMA's views on the spent lamp management issue as well as data and information responding to EPA's requests in the July 27 proposal. Section III presents NEMA's

recommended approach to spent lamp management in some detail, including discussion of the BOPS, enforcement, State adoption, our proposed regulatory language, and specific comments on EPA's exclusion proposal Section IV presents NEMA's views on the Universal Waste approach and Section V discusses the problems associated with keeping lamps within the full Subtitle C system. Section VI presents NEMA's main concerns about EPA's economic impact analysis and Section VII discusses our comments-on EPA's risk characterization. In Section VIII we discuss our position on mercury source reduction Section IX is a discussion of the issues involved re-use of recycled materials in lamp manufactures. Enclosed with our comments as Enclosure 3 is a list and copies of numerous documents provided to EPA and Office of Management and Budget by NEMA and its member companies over the past several years. These documents were inexplicably omitted from the rulemaking docket. NEMA is providing duplicate copies of these documents to ensure that EPA considers all available data in making its final decision with respect to mercury-containing lamps. [11] (Footnote 11: These documents date back to 1992 and reveal that NEMA's views on spent lamp management have evolved over time. The documents are included here so that EPA will have available a complete historical record.) We have also included newly developed documents that we believe are responsive to EPA's information needs. These documents include a discussion of reductions in mercury air releases achieved by using fluorescent lamps (Enclosure 1), a revised position paper developed by NEMA entitled 'The Management of Spent Electric Lamps Containing Mercury' (Enclosure 2), an executive summary and technical report NEMA has developed on mercury contamination in products reclaimed from spent lamps (Enclosure 4), an environmental risk analysis of mercury from spent lamps (Enclosure 5), an analysis of three regulatory scenarios for spent lamps (Enclosure 7), an analysis of the costs of various lamp management options (Enclosure 8), a discussion of results from NEMA mercury evaporation studies (Enclosure 9), and a discussion of the issues involved in the re-use of recovered materials in the manufacture of high volume linear fluorescent lamps (Enclosure 11).

RESPONSE

The Agency thanks the commenter for submitting comments and additional information addressing issues raised in the proposed rule.

DCN FLEP-00156
COMMENTER National Electrical Manufacturers Assn.
SUBJECT GEN
COMMENT Neither the landfilling nor the recycling BMPs are the same as the full Subtitle C regulations. Full Subtitle C management standards are designed only to protect groundwater, while the NEMA BOPS are tailored to protect against both groundwater and air releases.
RESPONSE
The Agency thanks the commenter for its suggested BMPs. Under today=s rule, untreated hazardous waste lamps may not be sent to municipal solid waste landfills. With respect to recycling, the Agency also notes that today=s rule does not change any regulatory requirements applicable to destination facilities (i.e., recycling facilities and treatment and disposal facilities). Under today=s rule, those facilities are subject to all Subtitle C management requirements applicable to hazardous waste treatment, storage, and disposal facilities, although the Agency does not regulate the actual process of reclaiming mercury. In addition, recycling facilities (as well as Adownstream@ facilities that reuse the recycled products) must comply with all applicable Clean Air Act requirements, all applicable worker safety standards under the Occupational Safety and Health Administration (OSHA), and all applicable state controls (including possible best management practices or other controls on the recycling process).

Residuals from recovery operations must also 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 in accordance with all applicable hazardous waste management controls, including the requirements of 40 CFR Subpart C, standards for recyclable materials used in a manner constituting disposal.

DCN FLEP-00156
COMMENTER National Electrical Manufacturers Assn.
SUBJECT GEN
COMMENT D. POLICY AND LEGAL RATIONALE FOR NEMA POSITION INCLUDING REGULATORY LANGUAGE)
Many years of experience in implementing RCRA have demonstrated to both the Agency and the regulated community that the basic full Subtitle C regulatory framework and requirements are unnecessarily rigid. Once a waste is captured with the full Subtitle C system a largely inflexible set of requirements is imposed that does not take into account the fact that the way a waste is managed can modify the actual risks posed by the waste. The full Subtitle C regulatory framework has also made it difficult to consider a variety of public policy goals in determining the way a waste will be regulated. Examples of goals that can be pursued through waste management regulation

include increased recycling and resource recovery, improved energy-efficiency, improved waste management cost-effectiveness, and improved environmental protection across media and across environmental statutes.

RESPONSE

Today's rule adds hazardous waste lamps to the scope of the universal waste rule, 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), but also allows the Agency to minimize potential hazardous waste releases.

The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters. 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).

EPA believes that the potential for mercury releases to harm human health and the environment has been well documented. In addition, the Agency notes that the regulatory requirements of the universal waste rule applicable to handlers and transporters of universal waste are less complex than the full Subtitle C regulations. Universal waste handlers who generate or manage items designated as universal waste have to follow streamlined standards for storing universal waste, labeling and marking waste or containers, preparing and sending shipments of universal wastes off-site, employee training, and response to releases. Universal waste transporters must comply with all applicable Department of Transportation regulations and ensure transportation of universal waste to a universal waste handler or a destination facility. Transporters of universal waste do not have to comply with RCRA hazardous waste manifest requirements.

DCN FLEP-00157

COMMENTER American Trucking Association, Inc.

SUBJECT GEN

COMMENT EPA has suggested that mercury-containing lamps may test hazardous under the Toxicity Characteristic Rule and, unless generated as a household waste, should be managed under the Resource Conservation and Recovery Act (RCRA) full Subtitle C provisions. At the same time, EPA acknowledges that reducing the management requirements for mercury-containing lamps will assist in the efforts of many existing and planned energy conservation programs which encourage the installation of energy efficient lighting.

EPA has requested comment on two alternative approaches for managing mercury- containing lamps under the full Subtitle C provisions. The two approaches include: (1) establishing a

conditional exclusion for mercury-containing lamps from the hazardous waste regulations provided that the lamps are disposed of in appropriately permitted municipal landfills, and (2) including mercury-containing lamps in EPA's Universal Waste Proposal (58 FR 8102). The trucking industry is very concerned about environmental quality and supports regulatory initiatives which balance economic and environmental benefits. Many trucking companies voluntarily participate in energy conservation programs, which include lighting upgrades and replacements. The American Trucking Associations appreciates this opportunity to comment on EPA's proposed rule (Docket Number F-94-FLEP-FFFFF).

ATA appreciates the opportunity to comment on this very important initiative and looks forward to working with EPA and the Regions to implement a more cost effective and efficient hazardous waste management system.

RESPONSE

The Agency appreciates the commenter=s support and interest in the hazardous waste lamp rulemaking. No response required.

DCN FLEP-00157

COMMENTER American Trucking Association, Inc.

SUBJECT GEN

COMMENT Under the proposed rules, the generator will have to test all of the various light bulbs it suspects of containing mercury to determine if they exceed the TCLP standards. This is yet another financial burden on the generator.

RESPONSE

Although today=s rulemaking does not alter a generator=s responsibility for waste identification, testing is not specifically required. In addition, EPA believes that the potential for mercury releases to harm human health and the environment has been well documented. In addition, the Agency notes that the regulatory requirements of the universal waste rule applicable to handlers and transporters of universal waste are less complex than the full Subtitle C regulations. Universal waste handlers who generate or manage items designated as universal waste have to follow streamlined standards for storing universal waste, labeling and marking waste or containers, preparing and sending shipments of universal wastes off-site, employee training, and response to releases. Universal waste transporters must comply with all applicable Department of Transportation regulations and ensure transportation of universal waste to a universal waste handler or a destination facility. Transporters of universal waste do not have to comply with RCRA hazardous waste manifest requirements. EPA notes that generators may determine the regulatory status of any solid waste either by testing the waste or by using knowledge of the waste.

DCN FLEP-00158
COMMENTER Osram Sylvania Inc.
SUBJECT GEN
COMMENT Since the introduction of the TCLP, approximately 2 billion mercury containing lamps have been disposed of, in a variety of ways. That quantity rises by 50 million per month. OSRAM SYLVANIA urges EPA to give this matter greater priority than it has to date, and to promulgate sensible, user friendly environmentally responsible and cost effective regulations that will accommodate the differing needs of the states. This matter cannot continue indefinitely without severely impacting Federal Energy Efficiency Programs (such as Green Lights) and the environmental benefits resulting from reduced power demand. Our distributors are already reporting requests for any lamp that does not contain mercury (i.e. incandescent lamps), so that the user is relieved from the overbearing complications of the current lamp disposal regulations. Any reversion to incandescent lamps will be a serious setback for both environmental and energy conservation policies.
RESPONSE
The Agency appreciates the commenter=s concern regarding the complexity of managing hazardous waste lamps under the full Subtitle C management standards. Today=s final rule addresses that issue by adding hazardous waste lamps to the universal waste regulations. The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters, yet ensures that lamps are recycled or treated in an environmentally protective manner at Subtitle C hazardous waste facilities.

EPA notes that today=s rule will not affect participation in the Agency=s Green Lights program. The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN FLEP-00159
COMMENTER Motorola, Inc.
SUBJECT GEN
COMMENT I. General Comments. EPA's July 27, 1994 proposal sets forth two options that would reduce RCRA management requirements for used mercury-containing bulbs. Either option provides regulatory relief and will enable large quantity and small quantity

generators to properly manage waste bulbs without unnecessary regulatory burdens. Additionally, Motorola believes that these options will encourage additional companies to participate in EPA's Green Lights Program.

Specific Comments on the Conditional Exclusion. Motorola provides these specific comments regarding issues raised in EPA's proposal for the Conditional Exclusion. For ease of reference these comments are addressed in the order they appear in the Federal Register.

RESPONSE

The Agency appreciates the commenter=s support of the hazardous waste lamp rulemaking.

DCN FLEP-00160

COMMENTER Central and South West Services, Inc.

SUBJECT GEN

COMMENT To date, the general position of the electric utility industry has been that the regulation of spent lamps as hazardous waste under federal and state environmental programs has tipped the delicate economic balance against participation in utility-subsidized relamping programs. Therefore, CSW is encouraged by the Agency's proposal to re-examine the regulatory status of mercury-containing lamps under the RCRA program. To assist in this effort, CSW has developed the following comments that we believe would result in the development of a regulatory program that is both protective of human health and the environment and preserves the economic and practical incentives for engaging in energy-efficient relamping programs. CSW appreciates the opportunity to comment on this important rulemaking initiative. We look forward to the prompt promulgation of a final rule that establishes a reasonable program under the RCRA system for the management of mercury-containing lamps.

RESPONSE

The Agency thanks the commenter for submitting comments on the proposed rule.

DCN FLEP-00161

COMMENTER American Forest and Paper Association

SUBJECT GEN

COMMENT Enclosed please find the comments of the American Forest and Paper Association (AF&PA) concerning the proposed rules for management of mercury-containing lamps under the Resource Conservation and Recovery Act, full Subtitle C.

RESPONSE
The Agency thanks the commenter for submitting comments on the proposed rule.

DCN FLEP-00162
COMMENTER Delaware Department of Natural Resources
SUBJECT GEN
COMMENT The Delaware Department of Natural Resources and Environmental Control (DNREC), Hazardous Waste Management Branch (HWMB) is submitting our comments to the United States Environmental Protection Agency (U.S. EPA) on the proposed rule regarding modification of the hazardous waste program for management of mercury containing lamps, as published in the Federal Register on July 27, 1994 (59 FR 38288).
RESPONSE
The Agency thanks the commenter for submitting comments on the proposed rule.

DCN FLEP-00163
COMMENTER Massachusetts Dept. of Environ. Prot.
SUBJECT GEN
COMMENT The Massachusetts Department of Environmental Protection is pleased to submit comments (attached) on the U.S. EPA's proposed rule on the management of mercury-containing lamps (July 27, 1994, 59 FR 38288).

The Massachusetts Department of Environmental Protection (MADEP) commends the EPA for its efforts to develop a more practical solution for the disposal of spent fluorescent lamps (SFLs). SFLs are just one of the many hard to manage C&D waste streams potentially brought under full Subtitle C regulation with promulgation of the Toxicity Characteristic rule. MA DEP has worked hard and committed significant resources developing policies for several C&D waste streams that reflect the relatively low risks of these wastes, but do not conflict with applicable full Subtitle C regulations. The Department feels that this is an area in which the EPA should continue to provide leadership in helping states develop guidance for managing these wastes.

II. Summary Statement Relative to EPA Proposal

In general, the MA DEP supports a policy that bans incineration, encourages and facilitates recycling of SFLs, and preserves incentives for Industry to continue reducing lamp toxicity. At the same time, MA DEP supports a policy that will not interfere with efforts to promote the use of energy saving fluorescent

lamps and provides users of SFLs practical waste management options that are less stringent than those required under full Subtitle C regulation.

RESPONSE

The Agency appreciates the commenter=s support of the hazardous waste lamp rulemaking. EPA believes that the final rule incorporates most of the elements included in the Summary Statement formulated by MA DEP.

Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as universal waste. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule standards are less stringent than full Subtitle C management standards).

The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters, yet ensures that lamps are recycled or treated in an environmentally protective manner at Subtitle C hazardous waste facilities. Fewer hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and landfills 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 ensures that releases 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., facilities that treat, dispose, or recycle universal wastes) are subject to all Subtitle C management requirements applicable to hazardous waste treatment, storage, and disposal facilities.

The regulatory approach finalized today will not affect participation in energy-efficient lighting programs. The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN FLEP-00164
COMMENTER E.I. Du Pont De Nemours and Co., Inc.
SUBJECT GEN

COMMENT DuPont has over fifty (50) manufacturing and office facilities located across twenty 20 states and territories, including major subsidiaries such as Conoco, Inc., that use mercury-containing lamps extensively as a result of active participation in the EPA's Green Lights Program. Hence, any modification to the existing hazardous waste management requirements for mercury-containing lamps would have a profound impact on our operations.

RESPONSE

The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking. The regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights Program. The universal waste standards are less stringent and less costly than full Subtitle C standards. The reduced waste management costs associated with the final lamps rule should encourage additional participation in energy-efficient lighting programs and increase recycling of spent lamps. Studies have shown that participation in energy-efficient lighting programs reduces potential mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN FLEP-00165

COMMENTER Ohio Chamber of Commerce

SUBJECT GEN

COMMENT I am writing on behalf of the members of the Ohio Chamber of Commerce to encourage the Environmental Protection Agency to act quickly to resolve regulatory issues surrounding the disposal of energy-efficient fluorescent and high intensity discharge lamps which contain mercury.

RESPONSE

The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking.

DCN FLEP-00166

COMMENTER American Electric Power Service Corp.

SUBJECT GEN

COMMENT We believe that our comments support the correct regulatory approach based on the clear record of evidence surrounding this issue. Furthermore, such an approach is key to removing some of the disincentives to participating in energy-efficient lighting

activities such as U.S. EPA's Green Lights Program. We appreciate the opportunity to provide our comments on this important issue and thank you for your consideration. American Electric Power is pleased to submit the following comments on U.S. EPA's proposed rule on the management of mercury-containing lamps (59 FR 38288-38304).

RESPONSE

The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking. The regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights Program. The universal waste standards are less stringent and less costly than full Subtitle C standards. The reduced waste management costs associated with the final lamps rule should encourage additional participation in energy-efficient lighting programs and increase recycling of spent lamps. Studies have shown that participation in energy-efficient lighting programs reduces potential mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN FLEP-00167
COMMENTER Florida Power and Light Company
SUBJECT GEN
COMMENT Florida Power and Light Company is pleased to see the Agency's consideration of these various management options and appreciates the opportunity to comment on the two proposals. The company would stress to the Environmental Protection Agency that considerable weight should be put on the USWAG comments not only due to the evidence on this subject matter, but also- because USWAG represents a very large portion of the utilities in the country. These utilities either directly, indirectly, or at arms length have and will continue to be involved to a great extent in the management of lighting wastes.

RESPONSE

The Agency thanks the commenter for submitting comments on the proposed rule.

DCN FLEP-00168
COMMENTER Merck and Company, Inc.
SUBJECT GEN

COMMENT The proposed rule presents and solicits comment on two approaches for reducing the requirements that apply to the management and disposal of spent mercury-containing lamps. The first option is a conditional exclusion from the hazardous waste management system which would allow disposal in regulated Subtitle D municipal landfills or recycling by state-permitted or state-registered recyclers. The second option is a "Universal Waste" approach which reduces the storage and transportation requirements prior to ultimate hazardous waste disposal or hazardous waste recycling. The Universal Waste system was proposed in the Federal Register on February 1, 1993 but has not been finalized.

RESPONSE

The Agency thanks the commenter for submitting comments on the proposed rule.

DCN FLEP-00168

COMMENTER Merck and Company, Inc.

SUBJECT GEN

COMMENT EPA should also expand its public education effort on this issue so that more lamps will be managed in an environmentally protective manner. We appreciate the opportunity to comment on this very important issue.

RESPONSE

The Agency appreciates the commenter's suggestion addressing public outreach efforts. As resources become available, the Agency may develop and distribute public outreach materials applicable to this rulemaking. In addition, members of the public who need assistance in understanding how to properly manage spent lamps may call the RCRA Hotline at (800) 424-9346.

DCN FLEP-00169

COMMENTER Advanced Environmental Recycling Corp.

SUBJECT GEN

COMMENT AERC/MTI is pleased to submit comments (original and two copies) on the proposed rule,"Hazardous Waste Management System; Modification of the Hazardous Waste Program; Mercury-Containing Lamps", Federal Register, July 27, 1994 (59 FR 38288) Docket Number F-94-FLEP-FFFFF.

RESPONSE

The Agency thanks the commenter for submitting comments on the proposed rule.

DCN FLEP-00170

COMMENTER National Assn. of Energy Services Comp.

SUBJECT GEN

COMMENT The National Association of Energy Service Companies appreciates the opportunity to submit comments on the EPA proposed rule governing the management of spent mercury-containing lamps. Enclosed please find an original and two copies of our comments. If NAESCO or any of its members can be of further assistance to the EPA as it works to finalize this rule, we would be more than happy to do so. In particular, we would be happy to provide specific information relevant to the energy conservation industry and any impact EPA's regulatory actions might have on the widespread implementation of energy conservation projects.

Conclusion: NAESCO's members believe that the issues raised by the management of spent mercury-containing lamps are extremely important, both because of the environmental concerns raised and because of the potential implications for energy conservation. These issues are deserving of concerted and coordinated effort by regulators at both the Federal and state levels. We are extremely pleased by the careful attention being paid to this matter by the EPA, and given the varying degrees and forms of regulation at the state level and the concomitant confusion in the marketplace, we strongly encourage the EPA to continue to take a leadership role in this area. We appreciate that present regulatory efforts are necessarily hampered by the fact that data on certain key forms of mercury emissions are incomplete or conflicting and the industries and markets for mercury reclamation have not fully matured as yet. However, NAESCO hopes that the EPA will adopt a regulatory approach that allows for consistent compliance and enforcement, while enabling the information on mercury emissions and the technologies and markets for reclamation to be more fully developed. NAESCO hopes that the above comments are useful to the EPA. We would be happy to work with the Agency on these matters and to provide specific information relevant to the energy conservation industry and any impact EPA's regulatory actions might have on energy conservation.

RESPONSE

The Agency thanks the commenter for submitting comments and additional information addressing issues raised in the proposed rule.

Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established

for designating a material as universal waste. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule standards are less stringent than full Subtitle C management standards). The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters, yet ensures that lamps are recycled or treated in an environmentally protective manner at Subtitle C hazardous waste facilities.

DCN FLEP-00171
COMMENTER Monsanto Company
SUBJECT GEN
COMMENT In the Federal Register on July 27, 1994, at 59 FR 38288, the Agency proposed rules which would modify the Hazardous Waste Program to provide reduced standards for mercury- containing lamps. The effect of the two alternative proposals in the notice would be to either conditionally exclude such lamps from regulation under full Subtitle C of RCRA, or to provide for streamlined management requirements at generators or collection centers. The Agency has requested comments on the proposals.
RESPONSE
The Agency thanks the commenter for comments on the proposed rule.

DCN FLEP-00172
COMMENTER Natural Gas Pipeline Company of America
SUBJECT GEN
COMMENT There are several points which Natural feels should be considered in the selection of the management option for handling mercury containing lamps and bulbs. These points will be discussed by topic and referenced by regulatory citation, where possible.

GENERAL: USEPA is requesting comments on the management of mercury containing lamps or bulbs. Two options have been proposed: Option 1 which provides for a conditional exclusion from hazardous waste rules and Option 2 which manages these lamps as hazardous waste under the Universal Waste Management System. Option 1 excludes these lamps from treatment as hazardous waste but requires extensive record keeping and certification for disposal. Lamps must be disposed of in permitted municipal sanitary waste (MSW) landfills or recycled at a licensed/permitted reclamation facility and records must be maintained for three years. Option 2 proposes to manage these materials as hazardous wastes (HW) but reduces administrative

requirements including biennial reporting, notification, manifesting, permitting and personnel training compared to current rules.

RESPONSE

The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking.

DCN FLEP-00173

COMMENTER Advanced Environmental Technology Corp.

SUBJECT GEN

COMMENT Advanced Environmental Technology Corporation (AETC) would like to take this opportunity to comment on the proposed rule, "Hazardous Waste Management System; Modification of the Hazardous Waste Program; Mercury-Containing Lamps", Federal Register, July 27, 1994 (59 FR 38288) Docket Number F-94-FLEP-FFFFF.

RESPONSE

The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking.

DCN FLEP-00173

COMMENTER Advanced Environmental Technology Corp.

SUBJECT GEN

COMMENT The logistical issues are another major concern in evaluating a practical option for the effective handling of waste fluorescent lamps, especially for remote, less populated areas. Those areas have two major concerns that must be addressed by the USEPA. The first concern is the ability to environmentally and economically handle the lamps, and the second concern is ensuring the remote locations do not become "dumping grounds" for lamps and other mercury-containing devices. It is essential that remote, less populated areas not suffer increased economical and logistical burden based on the regulatory policies.

RESPONSE

The Agency thanks the commenter for submitting comments on the proposed rule. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as universal waste. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule standards are less stringent than full Subtitle C management standards). The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters, yet ensures that lamps are recycled or treated in an environmentally protective manner at Subtitle C hazardous waste facilities.

Regarding the concern associated with handling and Adumping@ hazardous waste lamps, the final rule allows handlers to accumulate universal waste lamps for one year. If the lamps are stored for longer than one year, the handler must be able to demonstrate that such accumulation is solely for the purpose of accumulating such quantities of universal waste as are necessary to facilitate proper recovery, treatment, or disposal. (Handlers are not required to notify EPA or the authorized state of storage for longer than one year.) In addition, destination facilities (i.e., facilities that treat, dispose, or recycle universal wastes) are subject to all Subtitle C hazardous waste management requirements applicable to hazardous waste treatment, storage, and disposal facilities.

DCN FLEP-00174
COMMENTER Illuminating Engineering Soc. of N. Am.
SUBJECT GEN
COMMENT Enclosed are comments from the Illuminating Engineering Society of North America on the Environmental Protection Agency's (EPA) proposals for managing lamps containing waste mercury (59 FR 38288, July 27, 1991).

The IESNA is providing the following comments in an effort to encourage the Environmental Protection Agency (EPA) to act quickly to resolve regulatory issues surrounding the disposal of energy-efficient fluorescent and high intensity discharge lamps which contain mercury. Since these lamps are currently regulated as a hazardous waste when spent, the IESNA members' companies and their customers/clients, as users of fluorescent lighting, may be subject to the stringent and costly requirements of the Resource and Recovery Act (RCRA). There will be a benefit to these members from a cost and liability standpoint if RCRA controls on management of spent lamps are replaced with more appropriately tailored requirements.
RESPONSE
The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as universal waste. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule standards are less stringent than full Subtitle C management standards). The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters, yet ensures that lamps are recycled or treated in an environmentally protective manner at Subtitle C hazardous waste facilities.

The Agency notes that generators of waste can be held liable for releases of hazardous

constituents from their waste regardless of the status of the waste under full Subtitle C.

DCN FLEP- 00175
COMMENTER AT&T
SUBJECT GEN
COMMENT Following are the AT&T comments on the proposed rule (Proposal) concerning modifications to the hazardous waste program as it effects the management of mercury containing lamps. The Proposal was published in the Wednesday, July 27, 1994 edition of the Federal Register and the due date for comments was extended to November 25, 1994 in the September 16, 1994 issue of the Federal Register.
RESPONSE
The Agency thanks the commenter for submitting comments on the proposed rule.

DCN FLEP-00176
COMMENTER Coalition of Lamp Recyclers
SUBJECT GEN
COMMENT The Coalition's response and support for its position is included in the following for your review and consideration: 1.Best Management Practices for Lamp Recyclers (Attachment 1). 2.Response to the EPA request for comment and information in the proposed rule. 3.Analytical data from the recyclers on the mercury content remaining on the glass and aluminum end caps after processing (Attachment 2). 4.Analytical data from the recyclers on the amount of mercury released from broken fluorescent lamps (in text). 5.List of current and proposed recycling facilities, noting existing and future recycling capacity (Attachment 3). 6."Quantification of Immediate Mercury Vapor Release from Broken Fluorescent Lamps", November 1994; testing and report prepared by Advanced Environmental Recycling Corporation (Attachment 4). 7."Broken Lamp Emissions & Mercury in Glass, November 16, 1994; testing and report prepared by Recyclights (Attachment 5).

The Coalition of Lamp Recyclers urges EPA to take quick action to resolve this disposal problem and end the confusion on lamp disposal. The Coalition members would be happy to work with the Agency on any of the lamp issues and to provide any information relevant to the recycling industry.
RESPONSE
The Agency thanks the commenter for submitting comments and additional information

addressing issues raised in the proposed rule.

DCN FLEP-00178
COMMENTER General Electric Company
SUBJECT GEN
COMMENT The General Electric Company (GE), acting through GE Lighting, respectfully submits the attached comments on the U.S. EPA's proposed rule on the management of spent mercury containing lamps.

I. INTRODUCTION The General Electric Company (GE), acting through GE Lighting, hereby submits comments on the U.S. Environmental Protection Agency's (EPA) proposed rule: Hazardous Waste Management System; Modification of the Hazardous Waste Program; Mercury Containing Lamps (Federal Register, July 27, 1994, 38268. GE supports the leadership role which EPA is now taking on the management of spent lamps. For too long, the issue has remained unresolved, creating confusion and uncertainty among lamp manufacturers, lamp users, and the waste management industry. Federal leadership in this area is crucial to create uniformity and consistency in the manner in which lamps are managed.

GE's intention in submitting these comments, in addition to adding our support to NEMA's position, is to add GE's insight on the lamp issue gained from the company's considerable experience with mercury containing lamps and from working with EPA and State agencies on lamp management issues for numerous years. Specifically, GE's comments discuss the following principles for addressing the mercury lamp management issue: -Any approach for managing spent mercury containing lamps should be based on a thorough evaluation of benefits and risks -Providing an exclusion from full Subtitle C for Mercury Containing Lamps is consistent with previous agency actions; -EPA should establish a federal floor for spent lamp management; and -Generators of spent mercury lamps should be able to select the most cost-effective options within an acceptable level of environmental protection. In addition to discussing these principles, GE's comments provide additional information on the context and health implications of mercury releases from lamps and on the development of lamp recycling markets under different regulatory scenarios. The remainder of our comments add additional perspective on

mercury containing lamps and their management. III. Principles Underpinning GE's Position In evaluating EPA's proposal for managing mercury-containing lamps, GE based its review on several fundamental principles. These include: A. Any Approach for Managing Spent Mercury Containing Lamps Should be Based on a Thorough Evaluation of Benefits and Risks.. In announcing EPA's Common Sense Initiative, Administrator Browner emphasized the need to take broader, holistic, and more industry-specific approaches when developing regulations--approaches that consider all the benefits and risk from all media. This is consistent with a recent EPA report which stated:

RESPONSE

The Agency thanks the commenter for submitting comments and additional information addressing issues raised in the proposed rule.

In today=s rule, the Agency is not finalizing the conditional exclusion option for the management of hazardous waste lamps. Today's final rule adds hazardous waste lamps to the scope of the universal waste rule (40 CFR 273). The universal waste rule provides a reduced, or streamlined set of requirements for generators, collectors and transporters of universal wastes. The universal waste rule also allows the Agency to set specific management standards to control potential emissions of mercury during handling activities. Today=s final rule reduces the regulatory burden associated with the management of hazardous waste lamps and reduces the complexity of the RCRA regulations governing such lamps.

DCN FLEP-00182

COMMENTER Eastman Kodak Company

SUBJECT GEN

COMMENT I. General: Tailoring Management Standards to the Risks Posed.

Kodak is pleased that the Agency is proposing to move away from a "one size fits all" RCRA system to one which attempts to better tailor the regulations to the risks which are posed by specific types of wastes. Establishing appropriate management contingencies to move a secondary material out of the realm of hazardous waste and into the more appropriate category of solid waste is to be commended. We hope that this type of regulatory reform can be extended from relatively narrow waste streams like mercury- containing lamps, to broader classes of materials such as those trapped in the system by the RCRA "mixture and derived-from rules".

RESPONSE

The Agency thanks the commenter for submitting comments and additional information addressing issues raised in the proposed rule. Today's final rule adds hazardous waste lamps to

the scope of the universal waste rule (40 CFR 273). The universal waste rule provides a reduced, or streamlined set of requirements for generators, collectors and transporters of universal wastes. The universal waste rule also allows the Agency to set specific management standards to control potential emissions of mercury during handling activities. Today=s final rule reduces the regulatory burden associated with the management of hazardous waste lamps and reduces the complexity of the RCRA regulations governing such lamps.

The commenters concerns regarding the current hazardous waste mixture and derived-from rules is beyond the scope of this rulemaking. The Agency is analyzing issues related to these standards within the context of a broader rulemaking related to the definition of solid waste and the hazardous waste recycling regulations.

DCN FLEP-00183
COMMENTER Chemical Manufacturers Association
SUBJECT GEN
COMMENT Enclosed please find one original and two copies of comments from the Chemical Manufacturers Association to be Included in Docket F-94-FLEP-FFFFF; EPA's proposed rule concerning "Modification of the Hazardous Waste Program; Mercury-Containing Lamps," 59 Fed. Reg. 38288 (July 27,1994). Please contact me a (202) 887-6936 if you have any questions.

The proposed rule solicits public comment on two approaches for reducing the requirements applicable to the disposal of spent lamps: 1) a conditional exclusion, which allows disposal in regulated Subtitle D municipal landfills or recycling by state-permitted or state-registered recyclers, and 2) the Universal Waste approach, which reduces the storage and transportation requirements for generators and some transporters and special collection facilities prior to ultimate hazardous waste disposal or hazardous waste recycling. (Universal Waste is a new concept, proposed by EPA in the Federal Register on February 11, 1993, that has not yet been finalized.)
RESPONSE
The Agency thanks the commenter for submitting comments and additional information addressing issues raised in the proposed rule.

DCN FLEP-00184
COMMENTER Assn. of International Auto Manuf., Inc.
SUBJECT GEN
COMMENT Enclosed are the comments of the Association of International Automobile Manufacturers, Inc. submitted in regard to the EPA's

proposal on the modification of the hazardous waste program for mercury-containing lamps. The proposed rule was published in the Federal Register on July 27, 1994 at 59 FR 38288. If you have any questions or concerns, please feel free to contact me.

RESPONSE

The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking.

DCN FLEP-00185

COMMENTER British Things, Inc.

SUBJECT GEN

COMMENT Attached, for submission to the Docket, are comments from British Things, Inc. (BTI) on EPA's proposed regulation, Hazardous Waste Management System; Modification of the Hazardous Waste Program; Mercury-Containing Lamps; Proposed Rule (Federal Register, July 27, 1994).

As is evident in EPA's preamble to the proposed rule, the Agency has two goals in developing the regulation. First, the regulation is intended to minimize the amount of mercury that enters the environment. Thus, it should address those areas which are the primary causes of mercury releases. Second, the regulation should encourage the use of energy efficient mercury lamps as a means of reducing domestic energy demand and the environmental impacts associated with energy generation. We believe the BTI technology, because of its low cost and environmental attributes, helps in accomplishing both of these goals.

RESPONSE

The Agency thanks the commenter for submitting comments on the proposed rule. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as universal waste. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule standards are less stringent than full Subtitle C management standards).

The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters, yet ensures that lamps are recycled or treated in an environmentally protective manner at Subtitle C hazardous waste facilities. Fewer hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and landfills 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 ensures that releases 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., facilities that treat, dispose, or recycle universal wastes) are subject to all Subtitle C management requirements applicable to hazardous waste treatment, storage, and disposal facilities.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN FLEP-00186
COMMENTER Building Owners or Managers Assn. Int.
SUBJECT GEN
COMMENT On behalf of the Building Owners and Managers Association (BOMA) International, I would like to thank you for the opportunity to provide comments on Docket F-94-FLEP-FFFFF, the EPA's proposal to modify the hazardous waste program for mercury-containing lamps.

LIABILITY CONCERNS. BOMA members remain concerned with the liability issues associated with hazardous waste. Even with the most stringent documentation and diligence in selecting transporters and permitted disposal facilities or reclamation centers, a generator cannot reasonably be expected to know the ultimate outcome of any shipment once it has left the building. BOMA strongly recommends that ownership/liability for the lamps be transferred to the transporter, facility, or recycler upon acceptance of the lamps if the generator can demonstrate reasonable compliance with the disposal regulations. Owners and managers of multi-tenant office buildings also have concerns over liability and responsibility for waste generated by tenants. While it may be reasonable to expect building managers to know the types of hazardous wastes generated by the tenant, it is unreasonable to expect them to know how much, when, and in what manner their waste was disposed of mercury. In many types of lease arrangements (specifically net leases), tenants are required to

assume responsibility for relamping and hazardous waste disposal. In these cases, the building owners should not be held liable for improper disposal of hazardous waste generated by the tenant. Under other lease arrangements, building owners may be responsible for relamping. and building maintenance functions, but the tenants still assume responsibility for all other types of waste they generate (i.e., dark room chemicals, biological waste). The building owner or manager must not be held responsible for these wastes. Easily understood regulations and straight forward compliance actions will ensure a greater level of compliance and sufficiently protect the environment. Any regulations promulgated should be brief and expressed in a manner easily understood by building operations and maintenance personnel. Disposal actions should be as simple or nearly as simple as current solid waste disposal in compactors and dumpsters. Lamp tracking paperwork cannot be expected to alleviate the mercury dispersal problem -- it will however impede effective, voluntary compliance. In order to further encourage regulatory compliance and widespread use of energy-efficient lighting products, EPA must also address the liability issues. BOMA firmly believes that once the mercury-containing bulbs have safely and responsibly left a building's premises, ownership should be transferred to the hauler, disposal facility, or recycler.

RESPONSE

The Agency thanks the commenter for submitting comments and additional information addressing issues raised in the proposed rule. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273.

The Agency notes that the general question of generator liability is outside the scope of today's rulemaking. However, many wastes generated by tenants of commercial or residential facilities may be exempt from RCRA regulation under the conditional exemption for small quantity generators or the household waste exemption. In addition, EPA believes that the potential for mercury releases to harm human health and the environment has been well documented. In addition, the Agency notes that the regulatory requirements of the universal waste rule applicable to handlers and transporters of universal waste are less complex than the full Subtitle C regulations. Universal waste handlers who generate or manage items designated as universal waste have to follow streamlined standards for storing universal waste, labeling and marking waste or containers, preparing and sending shipments of universal wastes off-site, employee training, and response to releases. Universal waste transporters must comply with all applicable Department of Transportation regulations and ensure transportation of universal waste to a universal waste handler or a destination facility. Transporters of universal waste do not have to comply with RCRA hazardous waste manifest requirements.

DCN FLEP-00187
COMMENTER PacifiCorp
SUBJECT GEN
COMMENT PacifiCorp is pleased to submit an original and two copies of comments in response to EPA's proposed rule under the Resource Conservation and Recovery Act (RCRA) for "mercury-containing lamps" (59 Federal Register 38287 (July 27, 1994)).

GENERAL COMMENTS. PacifiCorp appreciates the opportunity to provide comments to the U.S. Environmental Protection Agency (EPA) on the Proposed Rule on "Mercury-Containing Lamps" (59 FR 38287).
PacifiCorp perceives in the Proposed Rule a welcome attempt to impose only those regulatory burdens which lead to a net benefit for public health and the environment. PacifiCorp agrees with the position taken by most electric utilities, that the regulation of spent, mercury- containing lamps as hazardous waste under federal and state environmental programs will strongly discourage participation in utility-subsidized relamping programs. Because relamping programs offer a greater net environmental benefit than does regulating mercury-containing lamps as hazardous waste, forcing the industry to do the latter at the expense of the former is unwarranted and actually contrary to the goals of RCRA.
PacifiCorp is encouraged by the Agency's proposal to re-examine the regulatory status of mercury-containing lamps under RCRA.
PacifiCorp has developed the following comments in order to help the Agency formulate a regulatory program that both protects human health and the environment and preserves the economic and practical incentives for engaging in energy-efficient relamping programs.

RESPONSE
The Agency appreciates the commenter's support of the proposed rule with respect to reducing the regulatory requirements for the management of hazardous waste lamps.

Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as universal waste. As the commenter points out, today=s final rule reduces the regulatory burden associated with the management of hazardous waste lamps and reduces the complexity of the RCRA regulations governing waste lamps that are hazardous because of mercury or any other hazardous characteristic.

The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters, yet ensures that lamps are recycled or treated in an environmentally protective manner at Subtitle C hazardous waste facilities. Fewer hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and landfills 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 Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking. The regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights Program. The universal waste standards are less stringent and less costly than full Subtitle C standards. The reduced waste management costs associated with the final lamps rule should encourage additional participation in energy-efficient lighting programs and increase recycling of spent lamps. Studies have shown that participation in energy-efficient lighting programs reduces potential mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN FLEP-00188
COMMENTER Westinghouse Electric Corporation
SUBJECT GEN
COMMENT Westinghouse Electric Corporation (Westinghouse) offers the following General and Specific Comments on the Agency's two alternatives to modify the Hazardous Waste Program, for mercury-containing lamps, as proposed in the July 27, 1994, Federal Register (59 FR 38288).
RESPONSE
The Agency thanks the commenter for submitting comments on the proposed rule.

DCN FLEP-00191
COMMENTER Utility Solid Waste Activities Group
SUBJECT GEN
COMMENT USWAGS INTEREST IN THE PROPOSAL. Electric utilities and their commercial customers across the country are actively engaged in exploring options for achieving demand side management objectives (i.e. producing and using power more efficiently),

> including, among other things, participating in energy-efficient relamping programs. One of the key management issues confronting USWAG members with regard to whether to participate in relamping programs are the regulatory complications associated with the management of lamps removed from service during relamping activities. Instrumental in this determination is assessing the full costs of regulatory compliance for spent lamps and determining whether these costs and the associated operating obligations outweigh the perceived economic and operational benefits of energy-efficient relamping. To date, the general position of the electric utility industry has been that the regulation of spent lamps as hazardous waste under federal and state environmental programs has tipped the delicate economic balance against participation in utility-subsidized relamping programs. Therefore, USWAG is encouraged by the Agency's proposal to re-examine the regulatory status of mercury-containing lamps under the RCRA program. To assist in this effort USWAG has developed the following comments that we believe would result in the development of a regulatory program that is both protective of human health and the environment and preserves the economic and practical incentives for engaging in energy-efficient relamping programs.

RESPONSE

The Agency appreciates the commenter=s support of the hazardous waste lamp rulemaking. Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273.

The EPA does not disagree with the commenter on the authority provided by the statute to conditionally exclude mercury-containing lamps from full Subtitle C regulation. However, in light of information obtained from recent studies and comments, the Agency has determined that the universal waste rule is the best approach for streamlining the management standards for mercury-containing lamps while ensuring protection of the environment.

The Agency notes that most hazardous waste lamps fail TCLP for mercury or sometimes for lead and are therefore considered a hazardous waste because they exhibit a toxicity characteristic. 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 indicate that the greatest threat of mercury releases from the management of lamps is during storage and transport due to uncontrolled breakage and crushing of lamps. One reason that mercury from spent lamps may not pose a documented threat in a landfill environment may be that a substantial amount of the mercury

contained in lamps is released from the lamp during storage and transport due to uncontrolled breakage and crushing of lamps. due to crushing and breakage. 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 full Subtitle C management requirements.

DCN FLEP-00194
COMMENTER Virginia Retail Merchants Association
SUBJECT GEN
COMMENT The EPA's designation of spent fluorescent and other mercury-containing lamps as a fully regulated hazardous waste creates a tremendous burden on retailers. In the retail industry, most lighting of showroom/sales space is created using fluorescent lighting. The designation of these spent lamps as a fully regulated hazardous waste creates a significant paperwork burden and cost for many facilities that would not otherwise be regulated hazardous waste generators.
RESPONSE
Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273. EPA appreciates the concerns expressed by the commenter, but points out that routine replacement of burned-out fluorescent bulbs by retailers will not be subject to RCRA regulation because of the exemption for conditionally exempt small quantity generators. In addition, EPA believes that the potential for mercury releases to harm human health and the environment has been well documented. In addition, the Agency notes that the regulatory requirements of the universal waste rule applicable to handlers and transporters of universal waste are less complex than the full Subtitle C regulations. Universal waste handlers who generate or manage items designated as universal waste have to follow streamlined standards for storing universal waste, labeling and marking waste or containers, preparing and sending shipments of universal wastes off-site, employee training, and response to releases. Universal waste transporters must comply with all applicable Department of Transportation regulations and ensure transportation of universal waste to a universal waste handler or a destination facility. Transporters of universal waste do not have to comply with RCRA hazardous waste manifest requirements.

The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking. The regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights Program. The universal waste standards are less stringent and less costly than full Subtitle C standards. The reduced waste management costs associated with the final lamps rule should encourage additional participation in energy-efficient lighting programs and increase recycling of spent lamps. Studies have shown that participation in energy-efficient lighting programs reduces potential mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN FLEP-00199
COMMENTER National Association of Electric Dist.
SUBJECT GEN
COMMENT On behalf of our members, we respectfully submit the following comments regarding the above-referenced proposed EPA rule.
RESPONSE
The Agency thanks the commenter for submitting comments aon the proposed rule.

DCN FLEP-00205
COMMENTER Pacific Gas and Electric Company
SUBJECT GEN
COMMENT PG&E will continue to participate in energy efficient programs when economically and environmentally feasible and appreciates this opportunity to comment on what PG&E considers a very important step in recognizing the needs of the utility industry and their customers.
RESPONSE
The Agency appreciates the commenter=s support of energy-efficient lighting programs and interest in the hazardous waste lamp rulemaking.

DCN FLEP-00211
COMMENTER Active Electric Supply, Inc.
SUBJECT GEN
COMMENT We suggest that the responsibility should not be cradle to grave. Once a generator turns over the spent lamps to a EPA ID transporter, consolidator or recycler his liability should end. The transporter and consolidator should keep records of how many lamps came in and go out to the recycler and that should be the end of his liability and so on.
RESPONSE
EPA notes that the general question of generator liability is outside the scope of this rulemaking. However, EPA believes that the potential for mercury releases to harm human health and the environment has been well documented. In addition, the Agency notes that the regulatory requirements of the universal waste rule applicable to handlers and transporters of universal waste

are less complex than the full Subtitle C regulations. Universal waste handlers who generate or manage items designated as universal waste have to follow streamlined standards for storing universal waste, labeling and marking waste or containers, preparing and sending shipments of universal wastes off-site, employee training, and response to releases. Universal waste transporters must comply with all applicable Department of Transportation regulations and ensure transportation of universal waste to a universal waste handler or a destination facility. Transporters of universal waste do not have to comply with RCRA hazardous waste manifest requirements.

DCN FLEP-00212
COMMENTER Pennzoil Company
SUBJECT GEN
COMMENT Pennzoil became a partner in the U S. Environmental Protection Agency's (EPA's) Green Lights program in early 1994 as part of our effort to improve the environment in which we operate. As a participant in this voluntary program, we are concerned about the management of the lighting materials that will be generated as waste. We are providing comments on the proposed rule because it will determine how we should handle any lighting materials that contain mercury.

We appreciate this opportunity to provide comments on the proposed rule. We request that EPA expedite its decision on this issue so that industry can use this new rule as a means to evaluate which lighting should be upgraded with more energy-efficient lighting. Please contact me if you have any questions concerning our comments.

RESPONSE
The Agency thanks the commenter for submitting comments on the proposed rule. Today's final rule adds hazardous waste lamps to the universal waste rule regulations under 40 CFR Part 273.

The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking. The regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights Program. The universal waste standards are less stringent and less costly than full Subtitle C standards. The reduced waste management costs associated with the final lamps rule should encourage additional participation in energy-efficient lighting programs and increase recycling of spent lamps. Studies have shown that participation in energy-efficient lighting programs reduces potential mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical

project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN FLEP-00215
COMMENTER Sterling Chemicals, Inc.
SUBJECT GEN
COMMENT Sterling supports EPA's effort to establish mercury lamp disposal requirements that would be protective of health and the environment, that would encourage the use of energy efficient lamps, and that would provide relief from unnecessary regulatory burdens.
RESPONSE
The Agency appreciates the commenter-s support of the hazardous waste lamp rulemaking.

DCN FLEP-00216
COMMENTER Recyclights, Inc.
SUBJECT GEN
COMMENT As we understand it, EPA is based on the principal of protecting human health and the environment by establishing policies, rules and regulations to reduce the amount of emissions of hazardous, toxics and carcinogens emitted from businesses into the environment. EPA has done a fine job of getting tough on many of these problem materials to insure that business acts properly. CERCLA, RCRA, and the Pollution Prevention Act of 1990 have directly fostered the improving ecological movement across the U.S. EPA's foresight and planning should be commended because without these laws much of the historical problems we have seen in the environment would most likely still be here today.
RESPONSE
The Agency appreciates the commenter's support of its efforts to protect human health and the environment.

DCN FLEP-00218
COMMENTER Louisiana Dept. of Environmental Quality
SUBJECT GEN
COMMENT Additionally, we endorse EPA's plans to set emissions standards for medical waste combustors.

3. These efforts should complement a broader trend in source reduction and emissions controls in

other regulatory programs. In particular, EPA should give serious consideration to a LAER approach instead of MACT in governing new and existing industrial air emissions of mercury. EPA will soon have the benefit of the final version of their own Report to Congress mandated under the Clean Air Act Amendments of 1990, which calls for a report on sources accounting for at least ninety percent of mercury emissions. The same provision of the Clean Air Act, Subsection 112(c)(6), mandates that EPA promulgate emissions standards for these sources no later than November 15, 2000. We hope the Agency will act sooner.

4. Elsewhere in RCRA: In commenting on other EPA proposals, the Hazardous Waste Division of the Louisiana DEQ has already made the point that technology-based standards are more appropriate to regulating mercury emissions from hazardous waste combustors than the present risk-based approach which allows a source to comply by merely raising the stack height. Locally insignificant mercury emissions have been proven to contribute to widespread contamination of the food chain elsewhere.

RESPONSE

Simultaneously with the effort to modify the management of hazardous waste lamps, the Agency has been actively pursuing regulation of mercury air emissions from a wide variety of other sources. On December 19, 1995, EPA issued a final rule limiting emissions of mercury and other pollutants from large municipal waste combustors (60 FR 65387). Subsequently, on September 15, 1997, EPA issued a final rule setting emission limits for mercury (and other pollutants) for medical waste incinerators (62 FR 48348) (remanded for further explanation, *Sierra Club v. EPA*, 167 F.3d 658 (D.C. Cir. 1999)). In addition, the Agency finalized a rule that sets performance standards for new municipal solid waste landfills (MSWLF) and emission guidelines for existing MSWLF (61 FR 9905; March 12, 1996)). Lastly, on April 19, 1996, the Agency proposed a rule that would limit emissions of various air pollutants including mercury from hazardous waste incinerators, cement kilns, and lightweight aggregate kilns (61 FR 17358, finalized in part, 63 FR 33782 (June 19, 1998)). In the future, EPA is planning to propose two rules to address (1) air emissions from industrial and commercial waste incinerators that burn non-hazardous waste, and (2) boilers that burn hazardous waste.

The EPA also notes that the *Mercury Study Report to Congress* (EPA-452/R-97-003) was released in December, 1997. The report, prepared by the EPA, examines many of the health effects resulting from mercury exposure.

DCN FLEP-00224
COMMENTER Amtech Lighting Services
SUBJECT GEN

COMMENT Just about all the Government agencies seem to conflict in their interpretation of requirements for disposal and recycling of mercury containing lamps, all of which result in inconsistent advice from regulatory agencies, confusion, and higher expense to handle, store and process lamps for disposal or recycling. The EPA should do all that it can as quickly as possible to correct this problem.

RESPONSE

EPA expects that today's final rule may reduce much of the current confusion over the regulatory status of spent lamps. Under today's rulemaking, hazardous waste lamps may be managed in compliance with the universal waste rule. This rule ensures protection of the environment while reducing the regulatory burden for generators previously required to manage spent lamps in accordance with the full Subtitle C hazardous waste regulations. Generators of hazardous waste lamps are now subject to reduced regulatory requirements which provide a simple and consistent management approach to facilitate the proper disposal or recycling of hazardous waste lamps.

Although individual states may have more stringent requirements for the management of this waste, the Agency encourages states to adopt the universal waste approach for hazardous waste lamps. Many states have either adopted this approach or are planning to do so in the future.

DCN FLEP-00224

COMMENTER Amtech Lighting Services

SUBJECT GEN

COMMENT Clearly EPA resources would be better used addressing mercury emission from combustion rather than the unnecessary cost to regulate the minor mercury source from fluorescent and HID lamps.

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., the universal waste rule is less stringent than full Subtitle C management standards) for certain widely-generated hazardous wastes, but also allows the Agency to set specific management standards to control potential releases.

Studies show that a significant threat of mercury releases from the management of lamps is due to breakage of lamps 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.

As the commenter points out, municipal waste combustors are also a significant source of mercury

in the environment. In its December 1997 AMercury Study Report to Congress,@ EPA estimates that municipal combustors currently are responsible for 18.7 percent of the total national mercury emissions into the air. Today=s final rule will facilitate a reduction in mercury emissions from this source because the universal waste rule requires that universal wastes ultimately be managed at destination facilities that are in full compliance with full Subtitle C management standards, including the RCRA permitting provisions in 40 CFR Part 270. As a result, fewer hazardous waste lamps will be managed in the municipal waste stream.
Simultaneously with the effort to modify the management of hazardous waste lamps, the Agency has been actively pursuing regulation of mercury air emissions from a wide variety of other sources. On December 19, 1995, EPA issued a final rule limiting emissions of mercury and other pollutants from large municipal waste combustors (60 FR 65387). Subsequently, on September 15, 1997, EPA issued a final rule setting emission limits for mercury (and other pollutants) for medial waste incinerators (62 FR 48348) (remanded for further explanation, *Sierra Club v. EPA*, 167 F.3d 658 (D.C. Cir. 1999)). In addition, the Agency finalized a rule that sets performance standards for new municipal solid waste landfills (MSWLF) and emission guidelines for existing MSWLF (61 FR 9905 (March 12, 1996)). Lastly, on April 19, 1996, the Agency proposed a rule that would limit emissions of various air pollutants, including mercury, from hazardous waste incinerators, cement kilns, and lightweight aggregate kilns (61 FR 17358, finalized in part, 63 FR 33782 (June 19, 1998)). In the future, EPA is planning to propose two rules to address (1) air emissions from industrial and commercial incinerators that burn non-hazardous waste, and (2) boilers that burn hazardous waste.

Regulation of emissions from boilers and industrial furnaces (BIFs) are beyond the scope of this rulemaking, and are not addressed in this final rule for the management of mercury-containing lamps. On April 19, 1996 (61 FR 17358), EPA proposed (under the joint authority of CAA and RCRA) a rule that will significantly reduce the emissions of a number of pollutants, including mercury, from incinerators, cement kilns, and lightweight aggregate kilns that burn hazardous waste as fuel. The three categories of facilities covered in the proposal burn more than 80 percent of the total amount of hazardous waste being combusted each year. The Agency plans on addressing the remaining facilities (i.e., industrial boilers and other types of industrial furnaces) in a later rulemaking.

DCN FLEP-00225
COMMENTER Imperial Lighting Maintenance Company
SUBJECT GEN
COMMENT We feel that EPA resources could be better spent addressing mercury emissions from combustion (286 tons per year rather than in unnecessarily regulating a very minor mercury source such as fluorescent lamps (less than .3 tons per year).
While the associations usually provide comments on proposals under the Clean Air Act, this rule proposed under the Resource Conservation and Recovery Act (RCRA) has the great potential for

> adverse impacts on the atmospheric deposition of mercury, which is a hazardous air pollutant.
>
> We do not believe that current EPA regulations have adequately addressed the concern about mercury releases to the environment from the management and disposal of mercury-containing waste lamps. Further, we believe that the proposed rule did not present both options (exemption or inclusion of the lamps) in an equal light and omitted some key points.

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., the universal waste rule is less stringent than full Subtitle C management standards) for certain widely-generated hazardous wastes, but also allows the Agency to set specific management standards to control potential releases.

Studies show that a significant threat of mercury releases from the management of lamps is due to breakage of lamps 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.

As the commenter points out, municipal waste combustors are also a significant source of mercury in the environment. In its December 1997 AMercury Study Report to Congress,@ EPA estimates that municipal combustors currently are responsible for 18.7 percent of the total national mercury emissions into the air. Today=s final rule will facilitate a reduction in mercury emissions from this source because the universal waste rule requires that universal wastes ultimately be managed at destination facilities that are in full compliance with full Subtitle C management standards, including the RCRA permitting provisions in 40 CFR Part 270. As a result, fewer hazardous waste lamps will be managed in the municipal waste stream.

Simultaneously with the effort to modify the management of hazardous waste lamps, the Agency has been actively pursuing regulation of mercury air emissions from a wide variety of other sources. On December 19, 1995, EPA issued a final rule limiting emissions of mercury and other pollutants from large municipal waste combustors (60 FR 65387). Subsequently, on September 15, 1997, EPA issued a final rule setting emission limits for mercury (and other pollutants) for medial waste incinerators (62 FR 48348) (remanded for further explanation, *Sierra Club v. EPA*, 167 F.3d 658 (D.C. Cir. 1999)). In addition, the Agency finalized a rule that sets performance standards for new municipal solid waste landfills (MSWLF) and emission guidelines for existing MSWLF (61 FR 9905 (March 12, 1996)). Lastly, on April 19, 1996, the Agency proposed a rule that would limit emissions of various air pollutants, including mercury, from hazardous waste

incinerators, cement kilns, and lightweight aggregate kilns (61 FR 17358, finalized in part, 63 FR 33782 (June 19, 1998)). In the future, EPA is planning to propose two rules to address (1) air emissions from industrial and commercial incinerators that burn non-hazardous waste, and (2) boilers that burn hazardous waste.

Regulation of emissions from boilers and industrial furnaces (BIFs) are beyond the scope of this rulemaking, and are not addressed in this final rule for the management of mercury-containing lamps. On April 19, 1996 (61 FR 17358), EPA proposed (under the joint authority of CAA and RCRA) a rule that will significantly reduce the emissions of a number of pollutants, including mercury, from incinerators, cement kilns, and lightweight aggregate kilns that burn hazardous waste as fuel. The three categories of facilities covered in the proposal burn more than 80 percent of the total amount of hazardous waste being combusted each year. The Agency plans on addressing the remaining facilities (i.e., industrial boilers and other types of industrial furnaces) in a later rulemaking.

DCN FLEP-00229
COMMENTER Global Recycling Technologies, Inc.
SUBJECT GEN
COMMENT 4.NEMA has quite successfully cast doubt on and redirected the attention to; - applicability of TCLP to lamps - residual mercury in lamp components - inconclusive data on the behavior of mercury in landfills
RESPONSE
The Agency tanks the commenter for its comments on the proposed rule. Today=s rule adds hazardous waste lamps to the scope of the universal waste rule (40 CFR Part 273). 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 does not have data characterizing the behavior of mercury in different types of landfills over long time periods. 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. The Agency has concluded that some RCRA management controls are essential for these wastes. 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-containing lamps under several regulatory approaches.

DCN FLEP-00234
COMMENTER Minnesota Mining and Manufacturing (3M)
SUBJECT GEN
COMMENT 3M does not support the management of mercury-containing lamps

as a hazardous waste under the Toxicity Characteristic Rule issued under RCRA. This management method is confusing and extremely burdensome to generators of spent lamps. Generators would consist of virtually all commercial and public buildings in the United States.

RESPONSE

The Agency notes that today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet most of the criteria established for designating a material as universal waste. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule standards are less stringent than full Subtitle C management standards).

The regulatory requirements of the universal waste rule applicable to handles and transporters of universal waste are less complex than the full Subtitle C regulations. Universal waste handlers who generate or manage items designated as universal waste have to follow streamlined standards for storing universal waste, labeling and marking waste or containers, preparing and sending shipments of universal wastes off-site, employee training, and response to releases. The Agency notes that facilities that generate less than 100 kg of hazardous waste per month (i.e., approximately 350 lamps), continue to qualify as conditionally exempt hazardous waste generators (CESQG) and to be exempt from RCRA regulations, and therefore from today=s rule. However, states may have more stringent regulations that CESQGs must follow.

Universal waste transporters must comply with all applicable Department of Transportation regulations and ensure transportation of universal waste to a universal waste handler or a destination facility. Transporters of universal waste do not have to comply with RCRA hazardous waste manifest requirements. However, destination facilities (i.e., facilities that treat, dispose, or recycle universal wastes) remain subject to all full Subtitle C management requirements applicable to permitted or interim status hazardous waste treatment, storage, and disposal facilities.

DCN FLEP-00235

COMMENTER N'novated Concept Systems

SUBJECT GEN

COMMENT Everyone - everywhere - is confused, and although NCS agrees with the intent of these rule changes, we feel they are essentially vague, and would cause more problems than they would equably solve for the environment. Our nation needs an all-inclusive policy that will work and make sense, both fiscally and environmentally, for ALL Americans. Please ... let's slow this new juggernaut down. Let's consider ALL our alternatives in a more realistic and profitable light, and not commit ourselves to knee-jerk solutions, when what we really need is one comprehensive and even-handed agenda toward a safer,

cleaner environment for us all.

RESPONSE

EPA believes that the management requirements finalized today for hazardous waste lamps provide significant regulatory relief to generators of hazardous waste lamps as well as provide adequate protection of human health and the environment. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as universal waste. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule standards are less stringent than full Subtitle C management standards).

The regulatory requirements of the universal waste rule applicable to handles and transporters of universal waste are less complex than the full Subtitle C regulations. Universal waste handlers who generate or manage items designated as universal waste have to follow streamlined standards for storing universal waste, labeling and marking waste or containers, preparing and sending shipments of universal wastes off-site, employee training, and response to releases. The Agency notes that facilities that generate less than 100 kg of hazardous waste per month (i.e., approximately 350 lamps), continue to qualify as conditionally exempt hazardous waste generators (CESQG) and to be exempt from RCRA regulations, and therefore from today=s rule. However, states may have more stringent regulations that CESQGs must follow.

Universal waste transporters must comply with all applicable Department of Transportation regulations and ensure transportation of universal waste to a universal waste handler or a destination facility. Transporters of universal waste do not have to comply with RCRA hazardous waste manifest requirements. However, destination facilities (i.e., facilities that treat, dispose, or recycle universal wastes) remain subject to all full Subtitle C management requirements applicable to permitted or interim status hazardous waste treatment, storage, and disposal facilities.

DCN FLEP-00236

COMMENTER Conservation Lighting, Inc.

SUBJECT GEN

COMMENT Conservation Lighting has had significant difficulty in obtaining advise from regulatory agencies in the proper procedures for disposing of lamps. Each government agency seems to have different interpretation of requirements, providing little confidence that our company is in compliance. Our Company has on several occasions tried to get verification on the proper method of lamp disposal and none of the three State Governments we have contacted knew of any specific ruling. EPA should act quickly to eliminate current confusion, reduce building maintenance costs, and gain the full benefits of energy efficient relamping by promulgating the conditional exclusion. The further result of extending the confusion that now exists

also extends the amount of time necessary to educate the generators on the proper handling of this waste stream. The current confusion is causing a high percentage of generators to continue disposing of mercury- containing lamps in an unregulated waste stream. Once a uniform national approach is in place, our company will be able to move quickly to educate our customers on the proper handling of their fluorescent and HID lamps. As our name implies, (Conservation Lighting) we are most interested in our environment.

RESPONSE

EPA expects that today's final rule may reduce much of the current confusion over the regulatory status of spent lamps. Under today's rulemaking, hazardous waste lamps may be managed in compliance with the universal waste rule. This rule ensures protection of the environment while reducing the regulatory burden for generators previously required to manage spent lamps in accordance with the full Subtitle C hazardous waste regulations. Generators of hazardous waste lamps are now subject to reduced regulatory requirements which provide a simple and consistent management approach to facilitate the proper disposal or recycling of hazardous waste lamps.

Although individual states may have more stringent requirements for the management of this waste, the Agency encourages states to adopt the universal waste approach for hazardous waste lamps. Many states have either adopted this approach or are planning to do so in the future.

DCN FLEP-00237

COMMENTER Sherry L. Schilling

SUBJECT GEN

COMMENT With all fairness to the states with vast coastline and interior water bodies I believe that it is imperative the EPA enact waste lamp management legislation to protect the natural resources yielded by these water bodies. In Louisiana the potential loss of recreation and tourism, as well as, losses in the commercial seafood industries from mercury poisoning in the long term could be devastating. It is obvious to me that the potential for these losses will greatly decrease with some form of lamp management program. I think waste lamp management is most cost effective when viewed relative to the natural resources that will be protected from long term exposure, the development of new job creating industries, the recycling of tons of usable glass and aluminum, the reduction of required landfill space, through waste minimization, and the decreased health risk associated with mercury poisoning.

I appreciate this opportunity to comment and I trust that you

will take the position that will protect the health and well being of the American people as a whole.

RESPONSE

The Agency appreciates the commenter's concerns about the effects of mercury contamination in the environment. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters, yet ensures that lamps are recycled or treated in an environmentally protective manner at Subtitle C hazardous waste facilities. Fewer hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and landfills 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 ensures that releases 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., facilities that treat, dispose, or recycle universal wastes) are subject to all Subtitle C management requirements applicable to hazardous waste treatment, storage, and disposal facilities.

DCN FLEP-00239

COMMENTER National Sign Association

SUBJECT GEN

COMMENT On behalf of the National Sign Association ("NESA") this firm attempted to file comments on the subject Proposed Rule. In order to assure that these comments were submitted in a timely manner, on Wednesday, November 23, 1994, we telephoned at approximately 1:00 p.m. EST to determine EPA's hours of operation. No one answered the telephone, but a recording came on the line which clearly stated that EPA would be open until 5:30 p.m. EST. We therefore attempted to submit NESA' s comments on the proposed rule via messenger. Upon arriving at the EPA building (401 M St., S.W. Washington, D.C.) between 3:15 and 3:30 p.m. EST, the messenger was advised by the security guard that the building had been closed since 2: 00 P.M.; and that the messenger could not deliver the comments. A telephone call to the Office of Solid Waste was not answered except by a voice mail recording. This firm is therefore submitting these comments via facsimile and U.S. Mail and will consider them to be timely submitted in accordance with the requirements of the proposed Rule.

RESPONSE
The Agency thanks the commenter for submitting comments addressing issues raised in the proposed rule and apologizes for the fact that its waterside facility in Washington was required to be closed on the last day of the comment period. The comments are considered to be submitted in a timely manner.

DCN FLEP-00239
COMMENTER National Sign Association
SUBJECT GEN
COMMENT EPA's proposed regulations would treat the fluorescent lamps illuminating NESA Members' signs like ordinary fluorescent lamps. But NESA Members' fluorescent lamps are specially made and frequently are significantly longer than the "standard" four-foot long fluorescent lamp; some may be as much as one hundred twenty inches (ten feet) long. These physical characteristics make the manufacture, installation, removal and handling of these lamps unique. In addition, many electric signs, especially signs for national chains such as Exxon, Burger King, and Kentucky Fried Chicken, are not owned by the premises owner. Instead, many of these signs are leased by the premises owner from the sign manufacturer. Under these circumstances, when re-lamping is conducted and waste lamps are generated it is unclear whether EPA may hold both the premises owner or the NESA Member to be the responsible generator; both are potentially responsible. Regardless, NESA Members do not wish their customers saddled with any incremental environmental regulatory burdens relating to electric signs, operation and maintenance. Hence, NESA Members are very concerned about the proposed regulations.

II. EPA's Proposed Regulations In 59 Fed. Reg. 38288 (July 27, 1994)
EPA proposes to modify the existing hazardous waste program for mercury-containing lamps so as to reduce the costs of regulation and further EPA's goal of energy conservation through use of new, energy-efficient fluorescent lamps. In its proposal EPA requested comments on two alternatives. The first alternative is to "conditionally exclude" fluorescent lamps so that they can be regulated under RCRA Subtitle D, rather than full Subtitle C, as they are now. The second alternative is to include fluorescent lamps as part of EPA's proposed Universal Waste Rule, which would regulate waste lamps as hazardous materials under Subtitle , but with some

relaxed administrative requirements. lee 58 Fed. Reg. 8012 (February-11, 1993).

NESA believes that EPA resources may be better spent addressing mercury emissions from combustion sources than on unnecessarily regulating a minor mercury source such as fluorescent lamps. Moreover, since sign lamps are but a small fraction of the fluorescent lamp industry, EPA's attempt to regulate sign lamp wastes is the equivalent of straining at gnats while swallowing camels.

RESPONSE

The Agency notes that, today=s rule does not affect the general question of generator liability. However, EPA also notes that unless a generator generates more than100 kg of hazardous waste in a calendar month, the generator is defined as a conditionally exempt small quantity generator (CESQG) under 40 CFR ' 261.5 (although, states may have more stringent regulations). Under today=s final rule, lamps are regulated under the universal waste rule. 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) for certain widely-generated hazardous wastes, but also allows the Agency to set specific management standards to control potential hazardous releases.

EPA believes that the potential for mercury releases to harm human health and the environment has been well documented. In addition, the Agency notes that the regulatory requirements of the universal waste rule applicable to handlers and transporters of universal waste are less complex than the full Subtitle C regulations. Universal waste handlers who generate or manage items designated as universal waste have to follow streamlined standards for storing universal waste, labeling and marking waste or containers, preparing and sending shipments of universal wastes off-site, employee training, and response to releases. Universal waste transporters must comply with all applicable Department of Transportation regulations and ensure transportation of universal waste to a universal waste handler or a destination facility. Transporters of universal waste do not have to comply with RCRA hazardous waste manifest requirements.

Regarding the issue of mercury emissions from sources other that spent lamps, the Agency notes that on February 27, 1995, it proposed a rule that set emission limits for mercury and other air pollutants emitted from medical waste incinerators (60 FR 10653). In addition, on December 19, 1995, the Agency issued a final rule that set air pollution limits for mercury as well as eight other pollutants from large municipal waste combustors (60 FR 65387). The Agency also has finalized a rule that sets performance standards for new municipal solid waste landfills (MSWLFs) and emission guidelines for existing MSWLFs (61 FR 9905; March 12, 1996). Lastly, on April 19, 1996, the Agency proposed a rule that would limit emissions of various air pollutants, including mercury, from hazardous waste incinerators, cement kilns, and lightweight aggregate kilns (61 FR 17358, finalized in part, 63 FR 33782 (June 19, 1998)). The EPA is planning to propose

rulemakings addressing air emissions from industrial and commercial waste incinerators and boilers and additional controls for MSWLFs.

DCN FLEP-00240
COMMENTER Luminaire Service, Inc.
SUBJECT GEN
COMMENT According to EPA studies, mercury does not leach from municipal landfills in significant amounts. Because of this and the fact that full Subtitle C does not offer significantly more protection than Subtitle D and full Subtitle C landfilling is more expensive, it would appear that the small benefit does not justify the cost. Regulations and funding would be better spent addressing mercury emissions from combustion than for minor mercury sources such as lamps.
RESPONSE
The Agency thanks the commenter for submitting comments in regards to the proposed rule. EPA does not have data characterizing the behavior of mercury in different types of landfills over long time periods. 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. The Agency has concluded that some RCRA controls are essential for these wastes. 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-containing lamps under several regulatory approaches.

Regarding the issue of mercury emissions from combustion facilities, the Agency notes that on February 27, 1995, it proposed a rule that set emission limits for mercury and other air pollutants emitted from medical waste incinerators (60 FR 10653). In addition, on December 19, 1995, the Agency issued a final rule that set air pollution limits for mercury as well as eight other pollutants from large municipal waste combustors (60 FR 65387). The Agency also has finalized a rule that sets performance standards for new municipal solid waste landfills (MSWLFs) and emission guidelines for existing MSWLFs (61 FR 9905; March 12, 1996). Lastly, on April 19, 1996, the Agency proposed a rule that would limit emissions of various air pollutants, including mercury, from hazardous waste incinerators, cement kilns, and lightweight aggregate kilns (61 FR 17358, finalized in part, 63 FR 33782 (June 19, 1998)). The EPA is planning to propose rulemakings addressing air emissions from industrial and commercial waste incinerators and boilers and additional controls for MSWLFs.

DCN FLEP-00241
COMMENTER Lighting Solutions
SUBJECT GEN
COMMENT We encourage our customers not only to reduce their energy load for cost savings but to be aware of the effect those changes

> have on the environment. It is true that we live in a cost driven society, not an altruistic one. We feel that the proposed lamp disposal rule will result in a step backwards in our goal to create a safe and healthy environment. The total amount of mercury in US lamps is less than .2% of the total mercury in the environment and is minuscule in comparison to the 286 tons per year being generated by combustible sources. Efforts to reduce the total mercury output per year would be better spent in supporting public education and perhaps in forcing the publics hand in the appropriate use of energy efficiency. It would appear that this new proposal will put the focus on the very people that seek to assist the EPA in their environmental concerns rather than on the biggest offenders. These new rules for all intents and purposes, will ham-string the Lighting Management Industry. In short you will be cutting off your nose to spite your face.

RESPONSE

EPA believes that the management requirements finalized today for hazardous waste lamps represent a significantly reduced burden to generators of hazardous waste lamps and provide adequate protection of human health and the environment. The Agency notes that the regulatory requirements of the universal waste rule applicable to handlers and transporters of universal waste are less complex than the full Subtitle C regulations. Universal waste handlers who generate or manage items designated as universal waste may follow streamlined standards for storing universal waste, labeling and marking waste or containers, preparing and sending shipments of universal wastes off-site, employee training, and response to releases. Universal waste transporters must comply with all applicable Department of Transportation regulations and ensure transportation of universal waste to a universal waste handler or a destination facility. Transporters of universal waste do not have to comply with RCRA hazardous waste manifest requirements. However, destination facilities (i.e., facilities that treat, dispose, or recycle universal wastes) remain subject to all full Subtitle C management requirements applicable to permitted or interim status hazardous waste treatment, storage, and disposal facilities.

Regarding the issue of mercury emissions from combustion facilities, the Agency notes that on February 27, 1995, it proposed a rule that set emission limits for mercury and other air pollutants emitted from medical waste incinerators (60 FR 10653). In addition, on December 19, 1995, the Agency issued a final rule that set air pollution limits for mercury as well as eight other pollutants from large municipal waste combustors (60 FR 65387). The Agency also has finalized a rule that sets performance standards for new municipal solid waste landfills (MSWLFs) and emission guidelines for existing MSWLFs (61 FR 9905; March 12, 1996). Lastly, on April 19, 1996, the Agency proposed a rule that would limit emissions of various air pollutants, including mercury, from hazardous waste incinerators, cement kilns, and lightweight aggregate kilns (61 FR 17358, finalized in part, 63 FR 33782 (June 19, 1998)). The EPA is planning to propose rules addressing

air emissions from industrial and commercial waste incinerators and boilers and additional controls for MSWLFs.

The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking. The regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights program. The universal waste standards are less stringent and less costly than full Subtitle C standards. The reduced waste management costs associated with the final lamps rule should encourage additional participation in energy-efficient lighting programs and increase recycling of spent lamps. Studies have shown that participation in energy-efficient lighting programs reduces potential mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN FLEP-00241
COMMENTER Lighting Solutions
SUBJECT GEN
COMMENT We recently had cause to quote a customer on the costs and sources for disposal of approximately one thousand lamps. It took an entire day of research to locate an appropriate disposal company and establish costs. Government agencies that should of had the information gave a confusing " mishmash " of instructions that were both unclear and inaccurate to the consumer. This type of information needs to be readily available to all customers.
RESPONSE
EPA expects that today's final rule may reduce much of the current confusion over the regulatory status of spent lamps. Under today's rulemaking, hazardous waste lamps may be managed in compliance with the universal waste rule. This rule ensures protection of the environment while reducing the regulatory burden for generators previously required to manage spent lamps in accordance with the full Subtitle C hazardous waste regulations. Generators of hazardous waste lamps are now subject to reduced regulatory requirements which provide a simple and consistent management approach to facilitate the proper disposal or recycling of hazardous waste lamps.

Although individual states may have more stringent requirements for the management of this waste, the Agency encourages states to adopt the universal waste approach for hazardous waste lamps. Many states have either adopted this approach or are planning to do so in the future.

DCN FLEP-00245
COMMENTER American Iron and Steel Institute
SUBJECT GEN
COMMENT The proposed rule is important to the steel industry because the size of typical steel plant manufacturing facilities and offices results in a significant number of fluorescent and other lamps that must be replaced in the normal course of daily operation.

EPA studies have demonstrated that landfilling of mercury-containing lamps presents insignificant risk to human health or the environment, and there appears to be no evidence suggesting a problem despite the historic disposal of many such lamps at municipal sites from industrial, commercial, and household sources. It is our view that any concerns with potential for air emissions due to breakage can be controlled with proper handling (including crushing) and packaging practices, which can be incorporated into state permits.

RESPONSE
Regarding the risks posed by mercury landfilling, the Agency does not have data characterizing the behavior of mercury in different types of landfills over long time periods. 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. The Agency has concluded that some RCRA controls are essential for these wastes. 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-containing lamps under several regulatory approaches.

Regarding the risks associated with lamp breakage during handling, the Agency believes that universal waste lamps should be stored and packaged in a way that minimizes lamp breakage. Recent studies show that significant releases of mercury during storage and transport can occur as a result of lamp breakage. EPA also notes that routine replacement of burnt-out fluorescent bulbs may not be subject to RCRA regulation because of the conditional exemption for small quantity generators (i.e., less than 100 kg in a calender month).

DCN FLEP-00246
COMMENTER Efficient Lighting and Maintenance, Inc.
SUBJECT GEN
COMMENT There is a need for a uniform national approach to recycling and speedy action on part of the EPA towards this goal. Efficient Lighting operates in two states. If the EPA does not adopt a lamp disposal program in a timely manner we may be faced with

conflicting regulations for each state. It would be difficult to implement a company wide policy on lamp recycling when there are differing regulations. The longer the EPA waits we either fail to achieve or delay reducing air emissions. We need to reduce electric power generation with the adoption of energy efficient lighting programs. Regulation is needed that will educate generators on the proper handling of the waste and have disposal done in an environmentally safe way. Once we know we can educate our customers in the proper handling of fluorescent and HID lamps.

RESPONSE

EPA expects that today's final rule may reduce much of the current confusion over the regulatory status of spent lamps. Under today's rulemaking, hazardous waste lamps may be managed in compliance with the universal waste rule. This rule ensures protection of the environment while reducing the regulatory burden for generators previously required to manage spent lamps in accordance with the full Subtitle C hazardous waste regulations. Generators of hazardous waste lamps are now subject to reduced regulatory requirements which provide a simple and consistent management approach to facilitate the proper disposal or recycling of hazardous waste lamps.

Although individual states may have more stringent requirements for the management of this waste, the Agency encourages states to adopt the universal waste approach for hazardous waste lamps. Many states have either adopted this approach or are planning to do so in the future.

DCN FLEP-00247

COMMENTER Total Lighting Service

SUBJECT GEN

COMMENT Our company has had difficulty in getting advice from regulating agencies in the correct procedure for disposing of the lamps. Each government seems to have different requirements, which in turn, leads our company to believe we might not be in total compliance with disposing of these lamps. EPA should respond quickly to stop this confusion, reduce building maintenance costs, and get the full benefits of energy efficient relamping by promulgating the conditional exclusion.

RESPONSE

EPA expects that today's final rule may reduce much of the current confusion over the regulatory status of spent lamps. Under today's rulemaking, hazardous waste lamps may be managed in compliance with the universal waste rule. This rule ensures protection of the environment while reducing the regulatory burden for generators previously required to manage spent lamps in accordance with the full Subtitle C hazardous waste regulations. Generators of hazardous waste lamps are now subject to reduced regulatory requirements which provide a simple and consistent management approach to facilitate the proper disposal or recycling of hazardous waste lamps.

Although individual states may have more stringent requirements for the management of this waste, the Agency encourages states to adopt the universal waste approach for hazardous waste lamps. Many states have either adopted this approach or are planning to do so in the future.

The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking. The regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights program. The universal waste standards are less stringent and less costly than full Subtitle C standards. The reduced waste management costs associated with the final lamps rule should encourage additional participation in energy-efficient lighting programs and increase recycling of spent lamps. Studies have shown that participation in energy-efficient lighting programs reduces potential mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN FLEP-00256
COMMENTER Ford Motor Company
SUBJECT GEN
COMMENT This is in response to EPA's request in the subject Federal Register notice for comments on the proposed two approaches for the management of mercury-containing lamps. We support EPA's efforts to provide regulatory relief from the current requirements for management of spent lamps, thereby encouraging the conversion to more energy- efficient lighting, but have some concerns/issues with the approaches currently proposed. Please incorporate these comments into the docket for this proposed rulemaking.
RESPONSE
The Agency appreciates the commenter's support of the proposed rule to reduce the regulatory requirements for the management of hazardous waste lamps and thanks the commenter for submitting comments and additional information addressing issues raised in the proposed rule.

DCN FLEP-00258
COMMENTER Colorado Lighting, Inc.
SUBJECT GEN
COMMENT Our company has had a difficult time advising our customers of

the proper procedures for the disposing of lamps. It seems that each government agency has a different interpretation of the requirements. It would greatly simplify our jobs if the EPA could act to eliminate the current confusion.

RESPONSE

EPA expects that today's final rule may reduce much of the current confusion over the regulatory status of spent lamps. Under today's rulemaking, hazardous waste lamps may be managed in compliance with the universal waste rule. This rule ensures protection of the environment while reducing the regulatory burden for generators previously required to manage spent lamps in accordance with the full Subtitle C hazardous waste regulations. Generators of hazardous waste lamps are now subject to reduced regulatory requirements which provide a simple and consistent management approach to facilitate the proper disposal or recycling of hazardous waste lamps.

Although individual states may have more stringent requirements for the management of this waste, the Agency encourages states to adopt the universal waste approach for hazardous waste lamps. Many states have either adopted this approach or are planning to do so in the future.

DCN FLEP-00259

COMMENTER Cherry City Electric, Inc.

SUBJECT GEN

COMMENT The Pacific Northwest continues to experience exceptional population growth. The recent closure of the region's only operating nuclear electrical power plant through legislation would have severely impacted the region's growth and economy. I am thoroughly convinced that the efficiencies gained thorough energy conservation measures, such as lighting retrofits has enabled the region to be self sufficient in it's power generation. Coal and gas fired turbine generating plants owned by local electrical utility companies have not been required to operate despite the region's explosive growth.

As I write this letter to your agency I cannot help but reflect on what our firm does for a profession. We design and install energy efficient lighting system retrofits. We do not choose to store, transport, or recycle for resale spent lamps from our day's work. We are in the business of providing electrical lighting services. If given the means our industry can perform extremely well. The resultant services and projects are saving the nation tons upon tons of environmentally damaging chemicals and related by-products. Do not halt the momentum you have helped to create.

RESPONSE

The Agency appreciates the commenter's support of the proposed rule to reduce the regulatory requirements for the management of hazardous waste lamps. Today=s rule provides a reduced, or streamlined set of requirements for handling hazardous waste lamps (i.e., universal waste rule standards are less stringent than full Subtitle C management standards). The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters, yet ensures that lamps are recycled or treated in an environmentally protective manner at Subtitle C hazardous waste facilities. Fewer hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and landfills 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 ensures that releases 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., facilities that treat, dispose, or recycle universal wastes) are subject to all Subtitle C management requirements applicable to hazardous waste treatment, storage, and disposal facilities.

To further EPA's pollution prevention goal, EPA encourages facilities to participate in energy-efficient lighting programs such as Green Lights, which will reduce the amount of air emissions produced by electricity generation plants. Electric utility plants are one of the biggest sources of mercury emissions. Studies have shown that participation in energy-efficient lighting programs such as Green Lights reduces mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation. The amount of air emissions produced from the generation of electricity will continue to decrease with additional declines in the demand for electricity due to participation in energy-efficiency programs.
The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking. The regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights Program. The universal waste standards are less stringent and less costly than full Subtitle C standards. The reduced waste management costs associated with the final lamps rule should encourage additional participation in energy-efficient lighting programs and increase recycling of spent lamps. Studies have shown that participation in energy-efficient lighting programs reduces potential mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-

efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN FLEP-00262
COMMENTER OG&E Electric Services
SUBJECT GEN
COMMENT As was expressed in the Proposed Rule, the Agency is seeking comment on two options for managing spent mercury-containing lamps. The first option is a conditional exclusion for mercury-containing lamps from regulation as hazardous wastes if the lamps are either disposed in permitted municipal solid waste landfills in States with Agency-approved RCRA Subtitle D programs or managed by State- permitted mercury reclamation facilities. The second option would include mercury-containing lamps under the Universal Waste Proposal, as published in the February 11, 1993 Federal Register (58 FR 8102) which establishes a reduced regulatory structure for certain widely-generated hazardous wastes. The Agency proposed these options in light of data which indicates that mercury-containing lamps may be safely managed either outside the RCRA Full Subtitle C program or within a reduced Subtitle D regulatory structure. OG&E would like to take this opportunity to commend the Agency for re-evaluating the regulatory status of mercury-containing lamps under the full Subtitle C program.

In closing, OG&E again appreciates the opportunity to comment on this proposed rulemaking and looks forward to the promulgation of a final rule that is both protective of human health and the environment and is reasonable in its efforts to manage mercury-containing lamps.
RESPONSE
The Agency appreciates the commenter's support of the proposed rule to reduce the regulatory requirements 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.
DCN FLEP-00264
COMMENTER Lighting Maintenance, Inc.
SUBJECT GEN
COMMENT Our company would like a straight answer about proper procedures for disposing of the mercury lamps efficiently. It seems like each agency has its own format for proper disposal and we believe that it should be narrowed down and brought up under one procedure that would be beneficial for all parties involved.
RESPONSE

EPA expects that today's final rule may reduce much of the current confusion over the regulatory status of spent lamps. Under today's rulemaking, hazardous waste lamps may be managed in compliance with the universal waste rule. This rule ensures protection of the environment while reducing the regulatory burden for generators previously required to manage spent lamps in accordance with the full Subtitle C hazardous waste regulations. Generators of hazardous waste lamps are now subject to reduced regulatory requirements which provide a simple and consistent management approach to facilitate the proper disposal or recycling of hazardous waste lamps.

Although individual states may have more stringent requirements for the management of this waste, the Agency encourages states to adopt the universal waste approach for hazardous waste lamps. Many states have either adopted this approach or are planning to do so in the future.

DCN FLEP-00266
COMMENTER Power Savers, Inc.
SUBJECT GEN
COMMENT NATIONAL APPROACH FOR UNIFORM DISPOSAL

It is increasingly difficult to get a straight answer from different state agencies on disposal requirements. We believe many companies are disposing of these lamps in an unregulated manner due to the problem of not getting an answer or getting too many different answers on methods of disposal. In short, let's support Green Lights for what it was established for - reduce power consumption and in turn reduce air pollutants and our dependency on foreign oil. Let us not barricade the road to this monumental achievement with government red tape. This is an important step in the right direction, please do not make it cost ineffective to adhere to Green Lights.

RESPONSE

EPA expects that today's final rule may reduce much of the current confusion over the regulatory status of spent lamps. Under today's rulemaking, hazardous waste lamps may be managed in compliance with the universal waste rule. This rule ensures protection of the environment while reducing the regulatory burden for generators previously required to manage spent lamps in accordance with the full Subtitle C hazardous waste regulations. Generators of hazardous waste lamps are now subject to reduced regulatory requirements which provide a simple and consistent management approach to facilitate the proper disposal or recycling of hazardous waste lamps.

Although individual states may have more stringent requirements for the management of this waste, the Agency encourages states to adopt the universal waste approach for hazardous waste lamps. Many states have either adopted this approach or are planning to do so in the future.

The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking. The regulatory approach finalized today will not affect participation in energy-efficient lighting

programs such as EPA=s Green Lights Program. The universal waste standards are less stringent and less costly than full Subtitle C standards. The reduced waste management costs associated with the final lamps rule should encourage additional participation in energy-efficient lighting programs and increase recycling of spent lamps. Studies have shown that participation in energy-efficient lighting programs reduces potential mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN FLEP-00270
COMMENTER The Barney Roth Company
SUBJECT GEN
COMMENT Further, it is extremely difficult to advise our clients and customers as to their approach of handling this problem. It also prolongs the tremendous uncertainty within the regulated community about the compliance options that are available. The end result, is that the Agency will either fail to achieve or delay the achievement of the environmental goal of reducing air emissions from electric power generation through the implementation of broad-scale energy efficient lighting programs. The further result of extending the confusion that now exists also extends the amount of time necessary to educate the generators on the proper handling of this waste stream. The current confusion is causing a high percentage of generators to continue disposing of mercury-containing lamps in an unregulated waste stream. Once a uniform national approach is in place, our company will be able to move quickly to educate our customers on the proper handling of their fluorescent and HID lamps.
RESPONSE
EPA expects that today's final rule may reduce much of the current confusion over the regulatory status of spent lamps. Under today's rulemaking, hazardous waste lamps may be managed in compliance with the universal waste rule. This rule ensures protection of the environment while reducing the regulatory burden for generators previously required to manage spent lamps in accordance with the full Subtitle C hazardous waste regulations. Generators of hazardous waste lamps are now subject to reduced regulatory requirements which provide a simple and consistent management approach to facilitate the proper disposal or recycling of hazardous waste lamps.

Although individual states may have more stringent requirements for the management of this waste, the Agency encourages states to adopt the universal waste approach for hazardous waste lamps. Many states have either adopted this approach or are planning to do so in the future.

The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking. The regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights Program. The universal waste standards are less stringent and less costly than full Subtitle C standards. The reduced waste management costs associated with the final lamps rule should encourage additional participation in energy-efficient lighting programs and increase recycling of spent lamps. Studies have shown that participation in energy-efficient lighting programs reduces potential mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

The final rule provides a streamlined set of standards and a uniform approach for the management of hazardous waste lamps by all handlers 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 full Subtitle C hazardous waste program, and will not be effective in authorized states since the requirements are promulgated under pre-HSWA authority. Prior to the passage of HSWA, a state's authorized program operated entirely in lieu of EPA, and new Federal requirements did not take effect in an authorized state until the state adopted the requirements as state law. In contrast, under section 3006(g) of RCRA, new requirements promulgated by EPA under HSWA authority take effect in all states regardless of whether they are authorized or not. The requirements promulgated today will not be effective in authorized states until the state revises its program to adopt equivalent requirements under state laws. EPA is encouraging states to adopt today's final rulemaking that adds hazardous waste lamps to the federal universal waste program.

DCN FLEP-00274
COMMENTER Master Lighting Service Co., Inc.
SUBJECT GEN
COMMENT A national uniform approach on a timely basis is more required
by the EPA. Further delays will only result In the states
adapting standards of their own which will not necessarily
coincide with surrounding states or future Federal regulations.
Further delays in a clear direction are costing all of us large

amounts of monies in energy costs, air pollutants, etc as a result of old lamps being left in place. This lack of clear defined direction on the proper disposal of mercury containing lamps is allowing more and more improper lamp disposal to happen every day.

RESPONSE

EPA expects that today's final rule may reduce much of the current confusion over the regulatory status of spent lamps. Under today's rulemaking, hazardous waste lamps may be managed in compliance with the universal waste rule. This rule ensures protection of the environment while reducing the regulatory burden for generators previously required to manage spent lamps in accordance with the full Subtitle C hazardous waste regulations. Generators of hazardous waste lamps are now subject to reduced regulatory requirements which provide a simple and consistent management approach to facilitate the proper disposal or recycling of hazardous waste lamps.

Although individual states may have more stringent requirements for the management of this waste, the Agency encourages states to adopt the universal waste approach for hazardous waste lamps. Many states have either adopted this approach or are planning to do so in the future.

The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking. The regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights Program. The universal waste standards are less stringent and less costly than full Subtitle C standards. The reduced waste management costs associated with the final lamps rule should encourage additional participation in energy-efficient lighting programs and increase recycling of spent lamps. Studies have shown that participation in energy-efficient lighting programs reduces potential mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN FLEP-00275
COMMENTER Aetna Corporation
SUBJECT GEN
COMMENT This lack of clear, concise and uniform regulations has made it difficult for us to advise our customers on how to deal with lamp disposal issues, as well as causing extreme difficulty in adhering to a company-wide policy of recycling lamps. It also creates difficulty when dealing with clients who are unfamiliar

with the subject of lamp disposal. Because there are no clear regulations to justify our methods and costs with relation to this matter, customers will not understand that it is necessary and may choose to avoid the extra cost of recycling by continuing to dispose of lamps as they wish. Even if the customer does understand the need to dispose of lamps according to EPA regulation, there remains an uncertainty within the regulated community as to which compliance options are available. Such uncertainty will delay the implementation of energy efficient lighting programs, especially EPA's own Green Light Program. Finally, the current lack of a national guideline for lamp disposal is causing confusion among waste handlers, many of whom continue to dispose of lamps in an unregulated waste stream. Once this guideline is in place, we would be able to take steps toward educating our customers on proper EM and fluorescent lamp disposal.

RESPONSE

EPA expects that today's final rule may reduce much of the current confusion over the regulatory status of spent lamps. Under today's rulemaking, hazardous waste lamps may be managed in compliance with the universal waste rule. This rule ensures protection of the environment while reducing the regulatory burden for generators previously required to manage spent lamps in accordance with the full Subtitle C hazardous waste regulations. Generators of hazardous waste lamps are now subject to reduced regulatory requirements which provide a simple and consistent management approach to facilitate the proper disposal or recycling of hazardous waste lamps.

Although individual states may have more stringent requirements for the management of this waste, the Agency encourages states to adopt the universal waste approach for hazardous waste lamps. Many states have either adopted this approach or are planning to do so in the future.

The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking. The regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights Program. The universal waste standards are less stringent and less costly than full Subtitle C standards. The reduced waste management costs associated with the final lamps rule should encourage additional participation in energy-efficient lighting programs and increase recycling of spent lamps. Studies have shown that participation in energy-efficient lighting programs reduces potential mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste

management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

The final rule provides a streamlined set of standards and a uniform approach for the management of hazardous waste lamps by all handlers 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 full Subtitle C hazardous waste program, and will not be effective in authorized states since the requirements are promulgated under pre-HSWA authority. Prior to the passage of HSWA, a state's authorized program operated entirely in lieu of EPA, and new Federal requirements did not take effect in an authorized state until the state adopted the requirements as state law. In contrast, under section 3006(g) of RCRA, new requirements promulgated by EPA under HSWA authority take effect in all states regardless of whether they are authorized or not. The requirements promulgated today will not be effective in authorized states until the state revises its program to adopt equivalent requirements under state laws. EPA is encouraging states to adopt today's final rulemaking that adds hazardous waste lamps to the federal universal waste program.

DCN FLEP-00276
COMMENTER Nine West Technologies, Inc.
SUBJECT GEN
COMMENT We have reviewed the proposed rule for management of mercury-containing lamps, with special emphasis on HID lamps and wish to comment as follows: Typically, HID lamps contain more mercury than do fluorescent; their mercury content ranges from 5 mg to 225 mg. Currently manufactured lamps also contain lead solder (60%-90% lead). Lead is also present in the glass of the outer bulb (5.5%,- 5.85%); This bulb may also contain such other additives as thallium, iodine, and thorium. Barium metal is also often used inside the outer bulb to prevent oxidation of the lead wires.
RESPONSE
The Agency thanks the commenter for the data on the chemical compounds contained in some fluorescent lamps. For the reasons discussed in today-s preamble EPA has concluded that hazardous waste lamps exhibiting the toxicity characteristics for other constituents than mercury are appropriately included in the universal waste approach. Therefore, today-s rule adds all hazardous waste lamps to the scope of the universal waste rule (40 CFR Part 273).

The universal waste rule ensures that releases 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., facilities that treat, dispose, or recycle universal

wastes) are subject to all Subtitle C management requirements applicable to hazardous waste treatment, storage, and disposal facilities.

DCN FLEP-00276
COMMENTER Nine West Technologies, Inc.
SUBJECT GEN
COMMENT Nine West believes that adoption of a uniform set of regulations would benefit all the regulated community. We support the Agency's efforts to bring this issue to the table and hope it can lead to a well thought out management system which will protect the environment and operating personnel while helping to achieve recycling and reuse goals.
RESPONSE
The Agency appreciates the commenter's support of today=s rule for the management of hazardous waste lamps.

DCN FLEP-00279
COMMENTER Consumers Power Company
SUBJECT GEN
COMMENT CPCO appreciates the opportunity to comment on these proposed regulations and commends the US EPA for addressing the issue in a scientifically-justified manner.
RESPONSE
The Agency appreciates the commenter's support of today=s final rule for the management of hazardous waste lamps.

DCN FLEP-00280
COMMENTER Marathon Oil Company
SUBJECT GEN
COMMENT As a generator of spent fluorescent lamps containing mercury, Marathon strongly supports the EPA's proposal to regulate these lamps under a revised system. The current system tends to stifle source reduction by reducing the likelihood that a more efficient lighting source such as mercury-containing lamps will be used. It may be more desirable to use a less efficient lamp than it is to create a hazardous waste. In addition, the "delamping" process provides the opportunity to install better controls, which in turn results in source reduction through a decrease in the number of lamps and their operating hours. Although there is a reduction in regulatory requirements for conditionally exempt small quantity generators (CESQGs), many of Marathon's facilities generate varying quantities of hazardous

waste and even small quantities of spent lamps, therefore, would not qualify a facility as a CESQG.

Marathon encourages the EPA to move quickly on this proposal. The Green Lights Program is an important one and should not be jeopardized by the existing, regulatory framework.

RESPONSE

The Agency appreciates the commenter=s support of the hazardous waste lamp rulemaking. Today=s rule adds hazardous waste lamps to the scope of the universal waste rule (40 CFR Part 273).

The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking. The regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights Program. The universal waste standards are less stringent and less costly than full Subtitle C standards. The reduced waste management costs associated with the final lamps rule should encourage additional participation in energy-efficient lighting programs and increase recycling of spent lamps. Studies have shown that participation in energy-efficient lighting programs reduces potential mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN FLEP-00281

COMMENTER Michigan Dept. of Natural Resources

SUBJECT GEN

COMMENT In summary, it is premature for Ohio EPA to agree with the position set forth in the draft letter. To date, available information has been conflicting or non-existent. Comments on the proposed UWR are not due to U.S. EPA until November 24. Ohio EPA prefers to await the outcome of the UWR rulemaking process before endorsing the position offered by the Michigan Department of Natural Resources, October 18, 1994. A copy of our new fact sheet on this issue is attached for your information.

RESPONSE

The Agency thanks the commenter for submitting comments and additional information addressing issues raised in the proposed rule.

DCN FLEP-00289
COMMENTER Fluorescent Maintenance Company
SUBJECT GEN
COMMENT The control of spent lamp mercury pollution must be workable so that it will be complied with, and effective so it will not hinder the utilization and maintenance of fluorescent and HID lighting which conserves electricity and thereby reduces mercury pollution from electricity generation.
RESPONSE
The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking. The regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights Program. The universal waste standards are less stringent and less costly than full Subtitle C standards. The reduced waste management costs associated with the final lamps rule should encourage additional participation in energy-efficient lighting programs and increase recycling of spent lamps. Studies have shown that participation in energy-efficient lighting programs reduces potential mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN FLEP-00292
COMMENTER Old Dominion Electric Cooperative
SUBJECT GEN
COMMENT Old Dominion Electric Cooperative (Old Dominion) appreciates the opportunity to comment on the proposed rule dated July 27, 1994 titled, "Hazardous Waste Management System; Modification of the Hazardous Waste Program; Mercury - Containing Lamps."
RESPONSE
The Agency thanks the commenter for submitting comments on the proposed rule.

DCN FLEP-00293
COMMENTER American Airlines, Inc.
SUBJECT GEN
COMMENT Finally, American encourages EPA to undertake or fund research on alternatives to MCL technology. In summary, American believes that only a minimal amount of regulations controlling the disposal of MCLs is necessary. EPA should consider ways for

generators to easily dispose of the MCLs - preferably with their other nonhazardous wastes in MSW landfills. EPA should also extend the rule to allow disposal of MCLs in industrial waste landfills. Record keeping requirements should be kept to a bare minimum. Market-based programs should be implemented to deter the use and/or disposal of MCLs that test hazardous. EPA should also consider imposing a deposit on MCLs and requiring manufacturers and suppliers to take back spent lamps.

RESPONSE

In today=s rule, the Agency is not finalizing the conditional exclusion option for the management of hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as universal waste. The universal waste rule provides a reduced, or streamlined set of requirements for handlers and transporters (i.e., universal waste rule standards are 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 full Subtitle C requirements for hazardous waste treatment, storage, and disposal facilities.

The Agency does not have data characterizing the behavior of mercury in different types of landfills over long time periods. 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. The Agency has concluded that some RCRA controls are essential for these wastes. 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-containing lamps under several regulatory approaches.

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., those who accumulate 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.

The Agency appreciates the commenter's suggestions on ways to encourage the recycling of lamps. Although today=s rule does not mandate the recycling of hazardous waste lamps, EPA expects that it will greatly facilitate the environmentally-sound collection and the proper recycling or treatment of such 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.

DCN FLEP-00295

COMMENTER Texas Instruments, Inc.
SUBJECT GEN
COMMENT Finally, TI does not agree with EPA's belief that most lamp generation is sporadic and not on-going. Contrary to this belief, TI is regularly involved in maintaining its lighting systems and replaces bulbs on an on-going basis. Over the last twelve months, TI has generated an average of about 10,000 spent lamps per month. This number does not include any major re-lamp projects. It is our understanding that many other major companies have similar practices and mercury-containing lamp waste generation figures to TI's. TI appreciates the opportunity to comment an these proposed rules. TI feels that EPA should act quickly on finalizing a set of rules which both makes sense and is appropriately and adequately protective of the environment TI believes that under the current regulatory scheme, there is still significant confusion on the part of the regulated community regarding the proper procedures for disposal of these waste.
RESPONSE
The Agency acknowledges that the amount of spent lamps generated may differ greatly on a site-specific basis. Since the universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators and transporters, today's final rule will greatly facilitate the environmentally-sound collection and the proper recycling or treatment of hazardous waste 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.

EPA expects that today's final rule may reduce much of the current confusion over the regulatory status of spent lamps. Under today's rulemaking, hazardous waste lamps may be managed in compliance with the universal waste rule. This rule ensures protection of the environment while reducing the regulatory burden for generators previously required to manage spent lamps in accordance with the full Subtitle C hazardous waste regulations. Generators of hazardous waste lamps are now subject to reduced regulatory requirements which provide a simple and consistent management approach to facilitate the proper disposal or recycling of hazardous waste lamps.

Although individual states may have more stringent requirements for the management of this waste, the Agency encourages states to adopt the universal waste approach for hazardous waste lamps. Many states have either adopted this approach or are planning to do so in the future.

DCN FLEP-00297
COMMENTER Florida Dept. of Environ. Protection
SUBJECT GEN

COMMENT The first option being considered by the EPA is a conditional exclusion from the hazardous waste management regulations. It would exclude mercury-containing lamps from regulation as hazardous waste and allow their disposal at municipal solid waste (MSW) landfills permitted by a State with an EPA-approved MSW permitting program, or at mercury reclamation facilities permitted, licensed or registered with a State. In addition, there would be a prohibition on the disposal of these lamps at municipal waste combustors (MWCs) for those generators producing more than 100 kilograms of hazardous waste per month. The second option would be to include mercury-containing lamps under the special collection system regulations proposed under the Universal Waste System Rule (40 CFR, Part 273, February 11, 1993). This approach-would remove some of the barriers existing under full Subtitle C regulation, especially for generators, thus making collection of the lamps less burdensome, more efficient and economical.

RESPONSE

The Agency thanks the commenter for submitting comments addressing issues raised in the proposed rule.

DCN FLEP-00300

COMMENTER ElectricSave Company

SUBJECT GEN

COMMENT Our company has had significant difficulty in obtaining consistent advice from regulatory agencies in the proper procedure for disposing of lamps. Each government agency seems to have a different interpretation of requirements, providing little confidence that our company is in compliance. (Examples of problems experienced would be helpful here.) EPA should act quickly to eliminate current confusion, reduce building maintenance costs, and gain the full benefits of energy efficient relamping by promulgating the conditional exclusion. Further, it is extremely difficult to advise our clients and customers as to their approach of handling this problem. (It would be useful to cite some examples of practical difficulties faced when state regulations vary.) It also prolongs the tremendous uncertainty within the regulated community about the compliance options that are available. The end result is that the Agency will either fail to achieve or delay the achievement of the environmental goal of reducing air emissions from electric power generation through the implementation of

broad-scale energy efficient lighting programs. The further result of extending the confusion that now exists also extends the amount of time necessary to educate the generators on the proper handling of this waste stream. The current confusion is causing a high percentage of generators to continue disposing of mercury-containing lamps in an unregulated waste stream. Once a uniform national approach is in place, our company will be able to move quickly to educate our customers on the proper handling of their fluorescent and HID lamps.

RESPONSE

EPA expects that today's final rule may reduce much of the current confusion over the regulatory status of spent lamps. Under today's rulemaking, hazardous waste lamps may be managed in compliance with the universal waste rule. This rule ensures protection of the environment while reducing the regulatory burden for generators previously required to manage spent lamps in accordance with the full Subtitle C hazardous waste regulations. Generators of hazardous waste lamps are now subject to reduced regulatory requirements which provide a simple and consistent management approach to facilitate the proper disposal or recycling of hazardous waste lamps.

Although individual states may have more stringent requirements for the management of this waste, the Agency encourages states to adopt the universal waste approach for hazardous waste lamps. Many states have either adopted this approach or are planning to do so in the future.

The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking. The regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights Program. The universal waste standards are less stringent and less costly than full Subtitle C standards. The reduced waste management costs associated with the final lamps rule should encourage additional participation in energy-efficient lighting programs and increase recycling of spent lamps. Studies have shown that participation in energy-efficient lighting programs reduces potential mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN FLEP-00301
COMMENTER Minnesota Pollution Control Agency/MOEA
SUBJECT GEN
COMMENT 7. Lack of Consistency in NEMA's Position. Although the

National Electrical Manufacturers Association (NEMA) supports the CE alternative stating that lamps can be safely managed in solid waste landfills, this position contradicts NEMA's position regarding mercury thermostats. EPA has signaled their intention to include mercury thermostats in the proposed Universal Waste Rule. This move has the support of NEMA. In a letter, NEMA expresses concern that mercury in thermostats discarded in municipal solid waste "may be released into the environment and pollute the air and water." The same is true for lamps.

7. Lack of Consistency in NEMA's Position The proposed Universal Waste Rule was published in the Federal Register on February 11 1993 (58 FR 8102). Lamps were included in the proposal during the year or more of development prior to publication. Based on concerns expressed principally by the National Electrical Manufacturers Association (NEMA), lamps were taken out of the proposal shortly before publication. NEMA supports the CE alternative stating that lamps can be safely managed in solid waste landfills. This position significantly contrasts with NEMA's position regarding mercury thermostats. [Note 5: Letter from Timothy Feldman, NEMA Vice President for Government Affairs, to EPA RCRA Docket, #F-SCSP, May 10, 1993.] The U.S. EPA has signaled in intention to include mercury thermostats in the proposed Universal Waste Rule. This move has the support of NEMA. In their letter regarding thermostats, NEMA expresses concern that mercury in thermostats discarded in municipal solid waste "may be released into the environment and pollute the air and water." [Note 5: Letter from Timothy Feldman, NEMA Vice President for Government Affairs, to EPA RCRA Docket, #F-SCSP, May 10, 1993.] We find this apparent contradiction troubling given that: 1) information provided by EPA in 1994 [Note 6: "Analysis of Potential Cost Savings and the Potential for Reduced Environmental Benefits of the Proposed Universal Waste Rule." EPA 530-R-94-023, U.S. EPA, Washington, D.C. April 1994. Pages 3-8 and 3-11.] indicates that the 4.5 million thermostats discarded annually contain (at minimum) 11 metric tons of mercury, considerably less than the amount contained in lamps; 2) the amount of mercury used in lamps is expected to increase significantly compared to the amount used in thermostats; and 3) mercury in a thermostat is relatively encased (mercury is in glass ampule(s) protected from breakage by a sturdy plastic or metal case) compared to the mercury in lamps. Lamps are likely

to break and release significant amounts of mercury prior to reaching their ultimate disposal destination.

RESPONSE

The EPA thanks the commenter for the analysis provided. The Agency believes that the management of hazardous waste lamps, in addition to mercury-containing thermostats, should be included within the scope of the universal waste rule. Spent mercury thermostats are often returned to the manufacturer for management as part of a product take-back program. The universal waste rule facilitates the collection and transportation of spent thermostats in an environmentally safe manner and promotes participation in the manufacturer take-back programs.

Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as universal waste. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule standards are less stringent than full Subtitle C management standards).

DCN FLEP-00301

COMMENTER Minnesota Pollution Control Agency/MOEA

SUBJECT GEN

COMMENT The purpose of this letter is to clarify why we believe that total mercury releases must be controlled, provide comments on some issues discussed in the May 4, 1994, meeting, and provide an attachment with additional information.

I understand that there was support in the meeting for rapid resolution to the regulatory uncertainty of lamp management. I also understand that you cautioned the attendees that rapid resolution of the issue may not allow all alternatives to be aired in EPA's proposal. Let me point out first that there should not be any regulatory uncertainty or ambiguity about the current status of lamps. The EPA Green Lights Program's most recent publication on this subject, "Lighting Waste Disposal" (January 1994), clearly lays out lamp management alternatives and full Subtitle C requirements. This publication leaves little room for the ambiguity and uncertainty claimed by various parties. Given this, it is hard to argue that rapid resolution is needed. The real uncertainty is whether EPA will move forward with the Universal Waste management alternative that was developed well over two years ago in response to many valid concerns about full Subtitle C management of lamps. Lamps were included in all drafts of the Universal Waste Proposal before it was published for comment in February 1993. The states have been expecting a

proposal to manage lamps as universal waste for well over two years now. If there is to be a tradeoff between thoroughness and speed in the upcoming proposal, a thorough proposal is clearly preferable. The issue cannot be properly resolved unless EPA, at minimum, issues the co-proposal that includes the Universal Waste and Conditional Exemption lamp management alternatives on an equal footing. Once that co-proposal is issued, the full public debate on the costs and benefits of each alternative can take place. Due to the visibility and importance of this issue, as well as the strongly held opinions on the management alternatives, this is very important. However, if EPA is able to offer only one fully developed lamp management alternative in its Proposal, it should offer the Universal Waste management alternative and allow commenters to address Conditional Exemption as a Preamble alternative. The Universal Waste management alternative for lamps should be a well developed proposal by now. EPA has worked on this alternative for some time and submitted it to ONM and/or others for review as part of the original Universal Waste Proposal in the latter part of 1992. The recent Supreme Court ruling on incinerator ash may have a bearing on future management requirements and programs for lamps. We are currently studying this.

The need for effective mercury control transcends geographic boundaries and political differences. Mercury control initiatives and programs often have unanimous bipartisan support in Minnesota's executive and legislative branches. The debate is not about whether mercury should be controlled, but about how it should be done and who should bear the costs. We are looking to this administration for strong national leadership and new initiatives in mercury control and source reduction.

RESPONSE

The EPA thanks the commenter for submitting its comments and additional information regarding the proposed rule. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as universal waste. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule standards are less stringent than full Subtitle C management standards).

The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters, yet ensures that lamps are recycled or treated in an environmentally protective manner at Subtitle C hazardous waste facilities. Fewer

hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and landfills 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 ensures that releases 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., facilities that treat, dispose, or recycle universal wastes) are subject to all Subtitle C management requirements applicable to hazardous waste treatment, storage, and disposal facilities.

DCN FLEP-00307
COMMENTER Associated Industries of Massachusetts
SUBJECT GEN
COMMENT On behalf of Associated Industries of Massachusetts (A.I.M.) I am writing in response to the July 27 Federal Register notification, requesting comments concerning a proposed rule change in regards to the disposal of mercury-containing lamps. Presently, mercury-containing lamps which fail the TCLP must be disposed of at a permitted site specifically licensed to accept hazardous waste as provided by the full Subtitle C provisions of the Resource Conservation and Recovery Act (RCRA). The proposed rule change would either exclude the lamps from regulations as hazardous waste under RCRA full Subtitle C or add the lamps to the EPA's Universal Waste Proposal procedures. Enacting either of the two options set forth in the proposed rule would be a step in the right direction for both economic and environmental reasons. A.I.M. commends the EPA and its attempt to make the regulation and management of hazardous waste not only environmentally sound but also economically feasible.
RESPONSE
The Agency appreciates the commenter's support.

DCN FLEP-00309
COMMENTER Bethlehem Apparatus Company
SUBJECT GEN
COMMENT IV. RESPONSES TO SPECIFIC REQUESTS FOR COMMENTS
Bethlehem responds to certain of the numerous specific requests for comments as presented in the Proposed Rule for which Bethlehem can provide pertinent information. Bethlehem has indirectly

responded to many of the requests for comments by stating its position above.

RESPONSE

The Agency thanks the commenter for submitting comments addressing issues raised in the proposed rule.

DCN FLEP-L0001

COMMENTER Environmental Technology Council

SUBJECT GEN

COMMENT 1.INTRODUCTION. The ETC views this proposed regulation as an important one. The choice between the alternative approaches contained in the proposal will have a significant effect on mercury in the environment, an already serious environmental and public health problem. The outcome of this rulemaking will also help reveal whether this Administration's commitment to recycling is real or rhetorical.

A. Allegation of "Confusion" Is Questionable There is no reason to believe that there is any more confusion regarding proper disposal of fluorescent lamps as hazardous waste than there is for any other newly regulated hazardous waste. Such confusion, if it does exist, is generally short-lived.

It is customary for there to be some degree of generator confusion when a waste first becomes regulated. This is particularly so if the waste is generated by a category of generators not previously regulated. In the case of fluorescent lamps, some relampers may not have been subject previously to any hazardous waste regulations.

In short, there is no evidence demonstrating legitimate confusion among generators of mercury-containing fluorescent lamps concerning disposal and other RCRA hazardous waste management requirements.

RESPONSE

The Agency thanks the commenter for submitting comments and additional information addressing issues raised in the proposed rule.

The issue of generator confusion mentioned by the commenter may be related to the potential for a CESQG to face a change in generator status during a given month due to the generator=s initial participation in an energy-efficient relamping program. 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)). 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)).

As discussed in the proposal, 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 full 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 full Subtitle C hazardous waste management standards, depending on the amount of other hazardous waste generated.

DCN FLEP-L0003
COMMENTER Greater Fort Wayne Chamber of Commerce
SUBJECT GEN
COMMENT Since many of our area's members could be subjected to these stringent and costly requirements, we urge you to quickly resolve this regulatory issue.

If regulated as a hazardous waste when spent, many Chamber members would be subject to stringent and costly requirements of RCRA. Likewise, members stand to benefit from both a cost and liability perspective if the RCRA controls on management of spent lamps are replaced with more appropriate tailored requirements as set forth in the conditional exclusion.
RESPONSE
The Agency thanks the commenter for providing comments on the proposed rule. In today=s rule, the Agency is not finalizing the conditional exclusion option for the management of hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as universal waste. The universal waste rule provides a reduced, or streamlined set of requirements for handlers and transporters (i.e., universal waste rule standards are less stringent than full Subtitle C management standards).

EPA expects that today's final rule may reduce much of the current confusion over the regulatory status of spent lamps. Under today's rulemaking, hazardous waste lamps may be managed in compliance with the universal waste rule. This rule ensures protection of the environment while

reducing the regulatory burden for generators previously required to manage spent lamps in accordance with the full Subtitle C hazardous waste regulations. Generators of hazardous waste lamps are now subject to reduced regulatory requirements which provide a simple and consistent management approach to facilitate the proper disposal or recycling of hazardous waste lamps.

Although individual states may have more stringent requirements for the management of this waste, the Agency encourages states to adopt the universal waste approach for hazardous waste lamps. Many states have either adopted this approach or are planning to do so in the future.

DCN FLEP-L0004
COMMENTER American Trucking Associations
SUBJECT GEN
COMMENT On November 23, 1994, the American Trucking Associations. (ATA) submitted substantive comments to the U.S. Environmental Protection Agency proposal "Hazardous Waste Management System; Modification of the Hazardous Waste Program; Mercury-Containing Lamps (59 FR 38288)". Great thought and care was taken in the preparation of these comments, however, it has come to my attention that a typographical error is present in the foreword statement. Although the error does not cause a misrepresentation of ATA's intended statement, it does produce some confusion. Specifically, language has been omitted from the last paragraph on the foreword page. The paragraph should read: "Considering both it's own expertise and the input from TAG and EAG, the Environmental Affairs Department is well qualified to comment on the Proposal regarding the Hazardous Waste Management System; Modification of the Hazardous Waste Program; Mercury-Containing Lamps (59 FR 38288)." ATA understands that the official comment period for this notice has closed. However, as this is not a new comment and only seeks to clarify our original statement, we respectfully request that this change be included in the record. For your convenience, enclosed is a corrected copy of our comments. [The comments previously submitted as Comment FLEP-00157 are attached to the hard copy Comment FLEP-L0004.]
RESPONSE
The Agency thanks the commenter for submitting comments addressing issues raised in the proposed rule, and acknowledges the commenter's correction statement. The commenter=s letter and correction statement have been included in the regulatory docket with all other comments submitted to EPA in response to the proposed rule.

DCN FLEP-L0005
COMMENTER Massachusetts Energy Efficiency Council

SUBJECT GEN

COMMENT The Efficiency Council is not able to fully endorse either of the two approaches described in the EPA's proposal regarding the disposal of mercury-containing lamps. As described in more detail below, neither approach contains the detailed set of requirements regarding the storage, handling and transportation of lamps that the Efficiency Council believes is critical both to provide guidance to our industry and to provide the necessary level of environmental protection. The Efficiency Council is not able to offer a fully developed alternative approach at this time. However, we offer the following comments for the EPA's consideration. First we commend the EPA for proposing options that are less stringent than full RCRA full Subtitle C regulation. We concur that appropriate levels of environmental protection can be maintained under a system that is more practical and less burdensome than the current rules. Indeed, even though less stringent a system that is tailored to the practical realities of lamp disposal may actually result in a higher level of environ-mental protection by encouraging compliance.

RESPONSE

The Agency appreciates the commenter's support and thanks for the comments provided on the proposed rule. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as universal waste. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule standards are less stringent than full Subtitle C management standards). The Agency believes that the final hazardous waste lamp rule provides a clear and consistent set of requirements for the storage, handling, and transportation of hazardous waste lamps.

The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking. The regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights Program. The universal waste standards are less stringent and less costly than full Subtitle C standards. The reduced waste management costs associated with the final lamps rule should encourage additional participation in energy-efficient lighting programs and increase recycling of spent lamps. Studies have shown that participation in energy-efficient lighting programs reduces potential mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR

was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN FLEP-L0005
COMMENTER Massachusetts Energy Efficiency Council
SUBJECT GEN
COMMENT Finally, the EPA should design its final rule so as to promote compliance and to minimize the potential for future liability for firms that do comply. Firms in the energy efficiency industry are typically not experts in the handling and disposal of hazardous waste. Their goals are simply to comply with all EPA requirements and to avoid future liability for themselves and their clients. To the extent that the EPA's final rule is clear and minimizes the potential for future liability, these firms will be well served.
RESPONSE
Today-s rule does not affect the general question of generator liability. However, EPA expects that today's final rule may reduce much of the current confusion over the regulatory status of spent lamps. Under today's rulemaking, hazardous waste lamps may be managed in compliance with the universal waste rule. This rule ensures protection of the environment while reducing the regulatory burden for generators previously required to manage spent lamps in accordance with the full Subtitle C hazardous waste regulations. Generators of hazardous waste lamps are now subject to reduced regulatory requirements which provide a simple and consistent management approach to facilitate the proper disposal or recycling of hazardous waste lamps.

Although individual states may have more stringent requirements for the management of this waste, the Agency encourages states to adopt the universal waste approach for hazardous waste lamps. Many states have either adopted this approach or are planning to do so in the future.

DCN SCSP-L0007
COMMENTER Large Public Power Council
SUBJECT GEN
COMMENT LPPC notes that some of the wastes generated by energy efficiency and conservation programs may not be regulated under RCRA. Specifically, fluorescent lighting ballasts may contain small quantities of PCB and subject management of such wastes to the comprehensive regulatory requirements of the Toxic Substances Control Act (TSCA). Currently, this regulatory scheme provides little flexibility for those wishing to establish and promote proper disposal of these types of ballasts. Accordingly, LPPC urges the Agency to also consider

streamlining regulations under TSCA to facilitate and encourage collection and consolidation of "universal wastes" generated by energy efficiency conservation programs which are not regulated under RCRA. In the alternative the Agency should explore the feasibility and seek comment on whether universal wastes, such as fluorescent lighting ballast which contain PCBs, which are now regulated under TSCA, should instead be subject to the streamlined RCRA regulatory scheme proposed by this rule.

RESPONSE

Although amending the TSCA regulations governing the management of lighting ballast containing PCB is beyond the scope of today's rulemaking, the Agency thanks the commenter for his suggestions. Today's final rule only amends RCRA regulations governing the management of hazardous waste lamps (i.e., spent lamps that exhibit any hazardous waste characteristic).

DCN FLEP-L0009

COMMENTER Ohio Environmental Protection Agency

SUBJECT GEN

COMMENT The Ohio EPA's official comments on the July 27, 1994 Federal Register proposal on the management of fluorescent lamps were mailed to you on November 23, 1994. We are asking that you make note of two inadvertent errors in Ohio's comments. The first error is located on page five (Characterization of Lamps). The uncorrected sentence reads: "However, since these actions fail to answer the question regarding the ongoing debate surrounding fluorescent lamps, notably, are fluorescent lamps hazardous waste?" Corrected, this sentence should read: However, these actions fail to answer the question regarding the ongoing debate surrounding fluorescent lamps, notably, are fluorescent-lamps hazardous waste? The second mistake occurs on page eight in the next to the last paragraph, that is, "To reiterate, the Ohio EPA is not in favor of a conditional exclusion but would like to see lamps managed under a Universal Waste Rule provision establishing sound- management standards for the storage, handling, transportation, and recycling of lamps, that would require that lamps be managed under full Subtitle C requirements when shipped to the end destination or require recyclers to obtain a hazardous waste permit." The corrected version reads: To reiterate, the Ohio EPA is not in favor of a conditional exclusion but would like to see lamps managed under a Universal Waste Rule provision establishing sound-management standards for the storage, handling, transportation, and recycling of lamps, that would not require that lamps be managed under full Subtitle C

requirements when shipped to the end destination or require recyclers to obtain a hazardous waste permit. The Ohio EPA is requesting that you accept this as an addendum to our November 23 official comments.

RESPONSE

The Agency thanks the commenter for submitting comments addressing issues raised in the proposed rule, and acknowledges the commenter's correction statement. The commenter=s letter and correction statement have been included in the regulatory docket with all other comments submitted to EPA in response to the proposed rule.

DCN SCSP-L0009

COMMENTER National Electric Manufacturers Assn.

SUBJECT GEN

COMMENT We also use this letter to respond to the key comments submitted to the Agency on the Universal Waste proposed rule. We feel that it is critically important that the Agency not act hastily in response to the comments received in support of including lamps in the Universal Waste program. The solicitation for comment on the issue did not indicate that the Agency was considering the option of exempting lamps from the identification of hazardous waste in addition to the option of including lamps in the Universal Waste Rule. The large number of supportive comments indicates the compelling need for Federal leadership on this issue and since no alternative is presented, commenters speak only to the Universal Waste issue and not to the hazardous waste exemption issue. We feel that it would be unfair for the Agency to rely on comments that address only one option for the disposal of lamps containing mercury when two are actually being considered. In fact, NEMA is particularly concerned because in a December letter to the States, EPA promised to move forward rapidly to address regulatory issues regarding the management of lamps containing mercury. That letter suggested EPA was considering an exemption, but the only option States have been made aware of since the letter is the Universal Waste proposed rule. Federal agencies who commented in support of including lamps in the Universal Waste Rule also have expressed a preference for exempting lamps from full Subtitle C when NEMA made them aware that EPA was considering such an exemption [1] [Footnote 1: Note the letter from the U.S. Department of Energy, dated June 1, 1993, expressing support for the exemption once the Department was made aware of it (copy attached).] EPA's indecision on this issue continues to create major confusion and

has resulted in state action without EPA leadership.

RESPONSE

The Agency thanks the commenter for submitting comments addressing issues raised in the proposed rule.

The Agency proposed a rule on July 27, 1994 (59 FR 38288) that presented two options for managing spent mercury-containing lamps. One option was to conditionally exclude mercury-containing lamps from full Subtitle C hazardous waste regulation, and the other option was to include mercury-containing lamps under the universal waste system.

On May 11, 1995, the Agency promulgated the universal waste rule (60 FR 25492). The regulations, found in 40 CFR Part 273, impose a streamlined set of waste management requirements for generators, transporters, and interim storage facilities who manage hazardous waste batteries, certain hazardous waste pesticides, and mercury-containing thermostats. The universal waste regulations include proper storage standards, accumulation time limits, and notification requirements for facilities that generate and handle but do not treat or dispose of universal waste.

Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as universal waste. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule standards are less stringent than full Subtitle C management standards).

The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters, yet ensures that lamps are recycled or treated in an environmentally protective manner at Subtitle C hazardous waste facilities. Fewer hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and landfills 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-L0011

COMMENTER No Affiliation (name illegible)

SUBJECT GEN

COMMENT 3. This decision has all the earmarks of a sweetheart deal, similar to the deals cut by Ann Gorsech with industry several years back. EPA must set standards based on the best scientific rationale available, and then be prepared to apply those standards across the board or face the criticism which results from bowing to pressure from industry. To create standards which are sometimes applied and sometimes not applied only discredits

the agency. 4. If EPA allows fluorescent light tubes to be disposed in municipal landfills, why should other generators of mercury bearing wastes be required to manage their waste as hazardous waste? The two wastes pose the same risks. Why is one hazardous and the other not hazardous? I want you to know that I am writing to my elected officials including the President to ask him how it is possible that EPA, the agency whose mission is to protect human health and the environment, could consider allowing a TCLP mercury waste to be disposed in municipal landfills. The proposed rules for managing fluorescent light tubes is a sad statement about the environmental ethics of people within EPA, and a clear illustration that protecting human health and the environment is not a priority for EPA. For your information, I am including a short article which appeared in the Seattle Post Intelligence regarding the health warning recently issued by the State of California about eating fish caught in San Francisco Bay, because of high levels of mercury, and PCB's, and pesticides. [See hard copy of Comment FLEP-L0011 for attachment.] The huge contradiction between EPA's level of concern for mercury, and the recent health warnings for San Francisco Bay, make EPA's proposed rule making look like so much child's play. The regulators at EPA obviously don't get it.

RESPONSE

Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The EPA believes that the management requirements finalized today for hazardous waste lamps provide adequate protection of human health and the environment, while reducing the overall regulatory burden for generators of hazardous waste lamps. In today-s rule, the Agency is not finalizing the conditional exclusion option for the management of hazardous waste lamps.

The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as 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 full Subtitle C requirements for hazardous waste treatment, storage, and disposal facilities. This means that RCRA-regulated generators are not allowed to dispose of their untreated hazardous waste lamps at municipal solid waste landfills.

DCN FLEP-L0013
COMMENTER Osram Sylvania
SUBJECT GEN
COMMENT OSI has been reluctant to market lamps which simply pass the TCLP test. Our hope has been for a reasonable cost-effective common-sense rulemaking from EPA that would balance the minimal

disposal risk against the overwhelming environmental benefits of efficient lighting.

RESPONSE

Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as universal waste. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule standards are less stringent than full Subtitle C management standards).

The universal waste rule represents a significant cost reduction over full Subtitle C management requirements for generators, collectors, and transporters, yet ensures that lamps are recycled or treated in an environmentally protective manner at Subtitle C hazardous waste facilities. Fewer hazardous waste lamps will be managed in the municipal solid waste stream, therefore reducing the number of lamps going to municipal combustors and landfills 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 Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking. The regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights Program. The universal waste standards are less stringent and less costly than full Subtitle C standards. The reduced waste management costs associated with the final lamps rule should encourage additional participation in energy-efficient lighting programs and increase recycling of spent lamps. Studies have shown that participation in energy-efficient lighting programs reduces potential mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN FLEP-00130

COMMENTER U.S. Department of Energy

SUBJECT GEN

COMMENT 3. DOE is concerned that EPA has proposed a major rule without recognizing the rule's implications for DOE's mixed waste. As shown in Exhibit 1, DOE's Mixed Waste Inventory Report (provided to EPA in accordance, with Section 3021 of RCRA) identifies 7 mixed waste streams that are composed entirely of light bulbs. Six of these waste streams are coded as failing the toxicity

characteristic leaching procedure (TCLP) for mercury. In addition, portions of other mixed waste glass and debris waste streams also consist of light bulbs. The amount of light bulbs in DOE's mixed waste streams can be expected to increase in the future as DOE embarks on major decontamination and decommissioning projects.

RESPONSE

The Agency thanks the commenter for the comments submitted on the proposed rule. EPA notes that today's final rule only amends RCRA regulations governing the management of hazardous waste lamps (i.e., spent lamps that exhibit a hazardous waste characteristic). Today=s rule does not amend any existing provisions or regulatory requirements under the Atomic Energy Act (AEA). Although mixed waste streams composed entirely of light bulbs may comply with the standards for handlers of universal waste, ultimate disposal must take place at a mixed waste disposal facility in accordance with the requirements of the AEA.

DCN FLEP-L0013

COMMENTER Osram Sylvania

SUBJECT GEN

COMMENT Since the life of TCLP passing fluorescent lamps typically will be 3-5 years before they become a waste, EPA has a limited opportunity to show some Federal leadership and finally come to grips with the real issues of minimizing mercury emissions from this waste stream in a cost effective manner.

RESPONSE

EPA thanks the commenter for its interest in minimizing mercury emissions. The Agency also notes that lamps that pass the TCLP are not considered hazardous wastes under RCRA.

DCN SCSP-00201

COMMENTER Northeast Utilities

SUBJECT GEN

COMMENT Northeast Utilities Service Company (NUSCO), on behalf of The Connecticut Light and Power Company, Public Service Company of New Hampshire, Western Massachusetts Electric Company, and Holyoke Water Power Company, electric operating Subsidiaries of the Northeast Utilities (NU) system, submits this letter to urge EPA to provide some form of relief from full RCRA regulation for lamp wastes, particularly mercury-containing lighting wastes. For reasons stated below, NUSCO believes this issue is of great significance.

RESPONSE

The Agency thanks the commenter for submitting comments on the proposed rule.

DCN FLEP-00156
COMMENTER National Electrical Manufacturers Assn.
SUBJECT GEN
COMMENT 3. In several places throughout the proposal, EPA implies that lamp replacement is sporadic and that group re-lamping is relatively common (59 FR 38290, col. 1, 38295, col. 1, 38299, col. 1). Neither of these statements is correct. NEMA estimates that approximately 80 percent of lamp replacement is "spot relamping". (NEMA suggests that EPA use this industry-accepted term, as opposed to the term "attrition relamping".) Spot relamping results in a continuous stream of a few spent lamps over time. Retaining lamps in full Subtitle C simply encourages the use of spot relamping and encourages delays in implementing comprehensive lamp upgrades. Spot relamping and delays in lighting upgrades serves to prevent generators from reaching the CESQG threshold if they currently generate hazardous waste below that level and serves to prevent Small Quantity Generators from being regulated as Large Quantity Generators.
RESPONSE
The Agency has received a several comments regarding how relamping programs are implemented. Some commenters indicated that sporadic replacement keeps generators from surpassing the quantity threshold for CESQG status.

In addition, several commenters indicated that one-time mass re-lamping is common when generators initially enroll in energy-saving programs such as EPA's Green Lights program. Some commenters stated that the cost savings associated withe reduced energy use outweighs the cost of managing the spent lamps that result from re-lamping as hazardous waste.

Regarding the potential for a CESQG to face a change in generator status during a given month due to the generator's participation in comprehensive lamp upgrades, the Agency notes that, 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)). 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)). As discussed in the proposal, 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 full 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 full Subtitle C hazardous waste management standards, depending on the amount of other hazardous waste generated.

The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking. The regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights Program. The universal waste standards are less stringent and less costly than full Subtitle C standards. The reduced waste management costs associated with the final lamps rule should encourage additional participation in energy-efficient lighting programs and increase recycling of spent lamps. Studies have shown that participation in energy-efficient lighting programs reduces potential mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

COMMENTER Utility Solid Waste Activities Group
SUBJECT GEN
COMMENT Briefly, our major comments and recommendations are as follows:

> The record evidence demonstrates convincingly that, when managed in MSWLFs, mercury-containing lamps do not pose a threat to human health and the environment. Because the management of mercury-containing lamps in qualified MSWLFs does not pose a threat to human health and the environment, such materials do not meet the definition of "hazardous waste" and the continued regulation of such lamps under the hazardous waste program would fly in the face of the record evidence and would be arbitrary and capricious.

RESPONSE
EPA notes that hazardous waste lamps generally are classified as hazardous waste because the lamps fail the TCLP for mercury and sometime for lead.

The Agency does not have data characterizing the behavior of mercury in different types of landfills over long time periods. 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. The Agency has concluded that some management controls are essential for these wastes. 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-containing lamps under several regulatory approaches.

Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The EPA believes that the management requirements finalized today for hazardous waste lamps provide adequate protection of human health and the environment, while reducing the overall regulatory burden for generators of hazardous waste lamps. In today's rule, the Agency is not finalizing the conditional exclusion option for the management of hazardous waste lamps.

The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as 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 full Subtitle C requirements for hazardous waste treatment, storage, and disposal facilities. This means that RCRA-regulated generators are not allowed to dispose of their untreated hazardous waste lamps at municipal solid waste landfills.

DCN FLEP-00015
COMMENTER USPCI
SUBJECT GEN
COMMENT Finally, EPA emphasizes that it believes the major source of exposure to mercury is from air emissions from coal fired power plants, municipal waste combustors and from medical waste combustors. EPA does not list BIFs as a major source. Yet, BIFs incinerate over fifty per cent of all hazardous wastes requiring incineration in this country. Due to the lack of standards for BIFs, inadequate data exists as to mercury emissions from these sources. Yet, USPCI believes, that it is indisputable that BIFs contribute a greater exposure to mercury than other sources.
RESPONSE
Although regulation of emissions from boilers and industrial furnaces (BIFs) is beyond the scope of this rulemaking, the Agency notes that on April 19, 1996 (61 FR 17358), EPA proposed (under the joint authority of CAA and RCRA) a rule that will significantly reduce the emissions of a number of pollutants, including mercury, from incinerators, cement kilns, and lightweight aggregate kilns that burn hazardous waste as fuel. The three categories of facilities covered in the proposal burn more than 80 percent of the total amount of hazardous waste being combusted each year. The Agency plans on addressing the remaining facilities (i.e., industrial boilers and other types of industrial furnaces) in a later rulemaking.

DCN FLEP-00270
COMMENTER The Barney Roth Company
SUBJECT GEN

COMMENT The Barney Roth Company supports environmentally sound and cost-effective recycling of mercury-containing lamps. 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 material to be released.

RESPONSE

The Agency also notes that today=s rule does not change any regulatory requirements applicable to destination facilities (i.e., recycling facilities and treatment and disposal facilities). Under today=s rule, those facilities are subject to all Subtitle C management requirements applicable to hazardous waste treatment, storage, and disposal facilities, although the Agency does not regulate the actual process of reclaiming mercury. In addition, recycling facilities (as well as Adownstream@ facilities that reuse the recycled products) must comply with all applicable Clean Air Act requirements, all applicable worker safety standards under the Occupational Safety and Health Administration (OSHA), and all applicable state controls (including possible best management practices or other controls on the recycling process).

Residuals from recovery operations must also 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 in accordance with all applicable hazardous waste management controls, including the requirements of 40 CFR Subpart C, standards for recyclable materials used in a manner constituting disposal.

DCN FLEP-00273

COMMENTER Lighting Maintenance, Inc.

SUBJECT GEN

COMMENT Our company supports environmentally sound and cost effective recycling of lamps containing mercury. 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 beat, which could cause any mercury contained in the materials to be released.

RESPONSE

The Agency also notes that today=s rule does not change any regulatory requirements applicable to destination facilities (i.e., recycling facilities and treatment and disposal facilities). Under today=s rule, those facilities are subject to all Subtitle C management requirements applicable to hazardous waste treatment, storage, and disposal facilities, although the Agency does not regulate the actual process of reclaiming mercury. In addition, recycling facilities (as well as Adownstream@ facilities that reuse the recycled products) must comply with all applicable Clean Air Act requirements, all applicable worker safety standards under the Occupational Safety and Health Administration (OSHA), and all applicable state controls (including possible best management practices or other controls on the recycling process).

Residuals from recovery operations must also 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 in accordance with all applicable hazardous waste management controls, including the requirements of 40 CFR Subpart C, standards for recyclable materials used in a manner constituting disposal.

DCN FLEP-00274

COMMENTER Master Lighting Service Co., Inc.

SUBJECT GEN

COMMENT Master Lighting strongly supports environmentally safe but cost effective recycling programs. However, we feel that controls on the recycling process, quality and use of reclaimed products is necessary for the future of our earth. We would like to suggest that controls be imposed on air emissions from mercury during recycling process, and that OSHA standards for the workplace be applied. This would also include the on-site manner to further reduce the slippery and handling costs and problems from shipment of spent lamps.

RESPONSE

The universal waste rule includes standards for controlling mercury emissions during 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.

The Agency also notes that today=s rule does not change any regulatory requirements applicable to destination facilities (i.e., recycling facilities and treatment and disposal facilities). Under today=s rule, those facilities are subject to all Subtitle C management requirements applicable to hazardous waste treatment, storage, and disposal facilities, although the Agency does not regulate the actual process of reclaiming mercury. In addition, recycling facilities (as well as Adownstream@ facilities that reuse the recycled products) must comply with all applicable Clean Air Act requirements, all applicable worker safety standards under the Occupational Safety and Health Administration (OSHA), and all applicable state controls (including possible best management practices or other controls on the recycling process).

Residuals from recovery operations must also 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 in accordance with all applicable hazardous waste management controls, including the requirements of 40 CFR Subpart C, standards for recyclable materials used in a manner constituting disposal.

DCN FLEP-00275
COMMENTER Aetna Corporation
SUBJECT GEN
COMMENT While Aetna Corp. supports the recycling of lamps which contain mercury in an environmentally sound and cost-effective manner; we also believe that regulations should be developed concerning both the recycling process and the quality and use of the reclaimed products. Due to our major role as handlers of this waste, we are concerned that it is safely managed throughout this process. Along these lines, it is our recommendation that mercury emission during recycling be controlled, and that workplace standards for mercury be applied according to OSHA. To avoid exposure to unsafe levels of mercury during reuse processes involving heat, we also recommend that the levels of mercury in materials recovered from lamps be limited.
RESPONSE
The Agency also notes that today=s rule does not change any regulatory requirements applicable to destination facilities (i.e., recycling facilities and treatment and disposal facilities). Under today=s rule, those facilities are subject to all Subtitle C management requirements applicable to hazardous waste treatment, storage, and disposal facilities, although the Agency does not regulate the actual process of reclaiming mercury. In addition, recycling facilities (as well as Adownstream@ facilities that reuse the recycled products) must comply with all applicable Clean Air Act requirements, all applicable worker safety standards under the Occupational Safety and Health Administration (OSHA), and all applicable state controls (including possible best management practices or other controls on the recycling process).

Residuals from recovery operations must also 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 in accordance with all applicable hazardous waste management controls, including the requirements of 40 CFR Subpart C, standards for recyclable materials used in a manner constituting disposal.

DCN FLEP-00234
COMMENTER Minnesota Mining and Manufacturing (3M)
SUBJECT GEN
COMMENT Summary: In summary, 3M is hopeful that EPA simplifies the management requirements for generators of fluorescent lamps that have chosen the environmentally conscious option of recycling. By continuing to classify fluorescent lamps as a hazardous waste, EPA would discourage business, both large and small, from participation in the Green Lights program.
RESPONSE
Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency notes that the regulatory requirements of the universal waste rule applicable to generators and transporters of universal waste are less complex than the full Subtitle C regulations. Universal waste handlers who generate or manage items designated as universal waste have to follow streamlined standards for storing universal waste, labeling and marking waste or containers, preparing and sending shipments of universal wastes off-site, employee training, and response to releases. Universal waste transporters must comply with all applicable Department of Transportation regulations and ensure transportation of universal waste to a universal waste handler or a destination facility. Transporters of universal waste do not have to comply with RCRA hazardous waste manifest requirements. However, destination facilities (i.e., facilities that treat, dispose, or recycle universal wastes) remain subject to all full Subtitle C management requirements applicable to hazardous waste treatment, storage, and disposal facilities.

The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking. The regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights Program. The universal waste standards are less stringent and less costly than full Subtitle C standards. The reduced waste management costs associated with the final lamps rule should encourage additional participation in energy-efficient lighting programs and increase recycling of spent lamps. Studies have shown that participation in energy-efficient lighting programs reduces potential mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste

management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN FLEP-00160
COMMENTER Central and South West Services, Inc.
SUBJECT GEN
COMMENT II. THE AGENCY HAS AMPLE LEGAL
AUTHORITY TO PURSUE THE CONDITIONAL EXCLUSION
In view of the technical record demonstrating that mercury-containing lamps do not pose a threat to human health and the environment when managed in MSWLFs, EPA is fully authorized under the statute to determine that the lamps do not warrant hazardous waste regulation. A. RCRA Does Not Contemplate Regulating As Hazardous Waste Materials That Do Not Pose a Threat to Human Health and the Environment The statutory definition of "hazardous waste" and the scope of RCRA's hazardous waste program under section 3001 of the statute do not contemplate subjecting to the stringent full Subtitle C regulatory program materials that do not present a threat to human health and the environment. Therefore, the Agency is fully within its statutory authority in pursuing the conditional exclusion option, which would exclude mercury-containing lighting wastes from hazardous waste regulation when managed in qualified MSWLFs or at qualified recycling facilities. Turning first to the statutory definition of "hazardous waste," the Agency itself has made the most compelling argument as to why the definition does not encompass mercury-containing lamps when such materials are managed hi a manner that does not pose a threat to human health and the environment. EPA has correctly observed that the term "hazardous waste" is defined in the statute to include solid waste which "may ... pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed." RCRA ' 1004(5), 42 U.S.C. ' 6903(5). While EPA has generally interpreted this definition -- and thus the scope of the hazardous waste universe - by considering "plausible" types of mismanagement that a waste could be subject to and determining the hazards presented by the waste under that scenario, the Agency correctly acknowledges that the statute does not require that the "hazardous waste designation always assume mismanagement of the waste in question." 57 Fed. Reg. 21450, 21455 (May 20, 1992). Rather, EPA may determine whether

a waste is "hazardous" based on "how wastes are actually managed, rather than how they might be managed under a worst-case a I " Id. (emphasis added). As EPA has explained, '[t]his approach is authorized by ... RCRA section 1004(5)" which "defines as 'hazardous' wastes which may present a hazard 'when mismanaged,' thus authorizing EPA to determine whether, and under what conditions, a waste may present a hazard and regulating the waste only under such conditions, i.e., when mismanaged." Id. Therefore, if EPA determines that mercury-containing lamps do not present a hazard when managed in qualified MSWLFs (which they do not, as documented by the technical record), it would be acting fully within statutory authority in declaring that such materials do not warrant hazardous waste regulation when managed under these conditions. This is precisely what EPA has proposed to, do under the conditional exclusion option. Not only has the Agency staked out this interpretation of the statutory definition of hazardous waste in a earlier rulemaking, (Fn. 3 - The forum in which the Agency set forth this position was the preamble to the proposed "hazardous waste identification rule" published on May 20, 1992 (57 Fed. Reg. 21450). While that rule was not issued in final form due to a host of reasons unrelated to the definition of hazardous waste, the Agency nonetheless was articulating its extant authority under the statute for defining hazardous wastes based on actual management practices. See 57 Fed. Reg. At 21454-55. Indeed, Agency interpretive rules and policy positions are often set forth in proposed rules in order to establish the legal basis for the proposal.) it has taken this position in court and prevailed. EPA recently determined not to list used oil as a hazardous waste because the Agency determined that existing regulations applicable to used oil adequately controlled any plausible mismanagement scenario associated with the used oil. The Agency therefore concluded that the used oil did not "pose a substantial threat to human health or the environment" and thus did not warrant hazardous waste regulation. 57 Fed. Reg. 21524, 21528, 21521 (May 20, 19921 In defending this decision on appeal (NRDC et al. v EPA, No. 92-1371 (D.C. Cir. 1993)), EPA reiterated its construction of the statutory definition of hazardous waste as authorizing the Agency to consider how a waste is actually managed -- in the absence of full Subtitle C controls -- in determining whether it will be improperly managed and thus pose a risk to human health and the

environment: EPA's construction of 'improper management' in the present case as allowing it to consider existing federal regulatory structures in making listing determinations is reasonable, particularly in light of the statutory purpose of listing hazardous wastes under RCRA: to determine which images should be governed by the full panoply of full Subtitle C requirements. Congress designated the issue of whether a waste poses a 'substantial' risk of harm when improperly managed as a central factor in defining which wastes require such governance. RCRA section 1004(4), 42 U.S.C. ' 6903 (5). This same concept of improper management was incorporated into both the listing criteria and the criteria for identifying hazardous characteristics. Brief of Respondent EPA at 31 (NRDC et al v EPA, No. 92-13 71) (emphasis added). In the case of used oil, EPA determined that listing used oil as hazardous waste was not necessary because, "given the comprehensiveness of the regulatory structure, it was unlikely that mismanagement of used oil destined for disposal could pose a substantial present or potential hazard to human health and the environment." Id. at 22. The Court of Appeals upheld the Agency's decision, explaining that EPA could consider the effectiveness of controls -- outside of the full Subtitle C system -- in determining whether a move poses a risk to human health and the environment that warrants regulation as a listed waste. NRDC. v. EPA, 25 F.3d 1063, 1072 (D.C. Cir. 1994) (see also id. at 1080 n.4 (Wald, dissenting)). While the NRDC decision focused on a listing determination, EPA correctly articulated in its brief that the legal underpinning of its argument applied to the hazardous characteristics the TC regulation) as well as to the hazardous waste listings. Brief of Respondent EPA at 30. In light of the above, the Agency has clearly established the legal precedent for determining not to regulate a particular waste under full Subtitle C based on the finding that, if the waste is managed under a prescribed set of controls, it will not pose a risk to human health and the environment. This is the rationale underlying the proposed conditional exclusion for mercury-containing lamps and the Agency is fully empowered under RCRA to pursue this option.

RESPONSE

EPA does not disagree with the commenter on the Agency=s statutory authority to conditionally exclude mercury-containing lamps from full Subtitle C regulation. However, for the reasons explained in today=s preamble, the Agency has determined that the universal waste rule is the best

approach for streamlining the management standards for hazardous waste lamps while ensuring protection of the environment.

The Agency does not have data characterizing the behavior of mercury in different types of landfills over long time periods. 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. The Agency has concluded that some RCRA controls are essential for these wastes. 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-containing lamps under several regulatory approaches.

DCN FLEP-00191
COMMENTER Utility Solid Waste Activities Group
SUBJECT GEN
COMMENT B.The Agency Has Determined Not to Regulate Wastes Under full Subtitle C Because They Are Not Being Mismanaged Not only has the Agency staked out the above interpretation of the statutory definition of hazardous waste in an earlier rulemaking, [4] [Footnote 4:The forum in which the Agency set forth this position was the preamble to the proposed "hazardous waste identification rule" published on May 20, 1992 (57 Fed. Reg. 21450). While that rule was not issued in final form due to a host of reasons unrelated to the definition of hazardous waste, the Agency nonetheless was articulating its extant authority under the statute for defining hazardous wastes based on actual management practices. See 57 Fed. Reg. at 21454-55. Indeed, Agency interpretive rules and policy positions are often set forth in proposed rules in order to establish the legal basis for the proposal.] it has taken this position in court and prevailed. EPA recently determined not to list used oil as a hazardous waste because the Agency determined that existing regulations applicable to used oil adequately controlled any plausible mismanagement scenario associated with the used oil. The Agency therefore concluded that the used oil did not "pose a substantial threat to human health or the environment" and thus did not warrant hazardous waste regulation. 57 Fed. Reg. 21524, 21528, 21521 (May 20,1992). In defending this decision on appeal (Natural Resources Defense Council et al. v. Environmental Protection Agency, No. 92-1371 (D.C. Cir. 1993)) (NRDC v. EPA), EPA reiterated its determination that the statutory definition of hazardous waste authorizes the Agency to consider how a waste is actually managed -- in the absence of full Subtitle C controls --

in determining whether it will be improperly managed and thus pose a risk to human health and the environment: EPA's construction of "improper management" in the present case as allowing it to consider existing federal regulatory structures in making listing determinations is reasonable, particularly in light of the statutory purpose of listing hazardous under RCRA: to determine which wastes should be governed by the full panoply of full Subtitle C requirements. Congress designated the issue of whether a waste poses a "substantial" risk of harm when improperly managed as a central factor in defining which wastes require such governance. RCRA section 1004(4), 42 U.S.C. ' 6903(5). This same concept of improper management was incorporated into both the listing criteria and the criteria for identifying hazardous characteristics. Brief of Respondent EPA at 31 (NRDC v. EPA, No. 92-1371) (emphasis added). In the case of used oil, EPA determined that listing used oil as hazardous waste was not necessary because, "given the comprehensiveness of the regulatory structure, it was unlikely that mismanagement of used oil destined for disposal could pose a substantial present or potential hazard to human health and the environment." Id. at 22. The Court of Appeals upheld the Agency's decision, explaining that EPA could consider the effectiveness of controls -- outside of the full Subtitle C system -- in determining whether a waste poses a risk to human health and the environment that warrants hazardous waste regulation. Natural Resources Defense Council v. Environmental Protection Agency, 25 F.3d 1063, 1072 (D.C. Cir. 1994) (see also id. at 1080 n.4 (Wald, dissenting))(NRDC). While the decision focused on a listing determination, EPA correctly articulated in its brief that the legal underpinning of its argument -- i.e., that the Agency could evaluate actual management practices in determining whether a waste warrants full Subtitle C regulation -- applies to characteristic hazardous wastes (e.g. the TC regulation) as well as to listed wastes. Brief of Respondent EPA at 30. This position is correct because the regulatory criteria for listed and characteristic wastes are derived from the statutory definition of hazardous waste which, as discussed above, authorizes EPA to consider actual management practices in determining whether any solid waste warrants hazardous waste regulation (whether as a listed or characteristic waste).

RESPONSE

EPA does not disagree with the commenter on the Agency=s statutory authority to conditionally

exclude mercury-containing lamps from full Subtitle C regulation. However, for the reasons explained in today=s preamble, the Agency has determined that the universal waste rule is the best approach for streamlining the management standards for hazardous waste lamps while ensuring protection of the environment.

The Agency does not have data characterizing the behavior of mercury in different types of landfills over long time periods. 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. The Agency has concluded that some RCRA controls are essential for these wastes. 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-containing lamps under several regulatory approaches.

DCN FLEP-00124
COMMENTER Commonwealth Edison Company
SUBJECT GEN
COMMENT ComEd also asks the Agency not to delay this rulemaking. Delay in EPA action will shortly create difficulties for ComEd and our customers, and could negatively impact energy efficiency programs like federally-supported Green Lights, and our own DMS program. A growing number of utilities and lamp users will not implement these programs until the lamp management issue is settled. ComEd also asks the Agency to consider another possibly undesirable side affect of stringent lighting waste regulation. If lighting waste regulation is made onerous and costly, a market may develop for reusable (unbroken), though inefficient, mercury light bulbs, in which relampers either sell or give away usable bulbs to other end users. We have already been asked by some of our customers if they can give away their used bulbs rather than dispose of them as hazardous waste. Newer businesses and industries are often low in starting capital, and they may choose to use inefficient, but "free" bulbs to save initial costs. If this scenario develops, the environmental purpose of replacing mercury lamps is defeated, unless an outright ban of mercury lamp use is instituted. The Agency's proposed conditional exclusion for mercury-containing lamp waste should provide the right level of control to properly manage lighting waste in a sound environmental manner to the extent that ComEd can more aggressively pursue its newly instituted DSM - Energy Efficient Lighting System Program.
RESPONSE
The Agency thanks the commenter for the comments submitted. Today's final rule adds hazardous

waste lamps to the universal waste regulations under 40 CFR Part 273. The regulatory requirements of the universal waste rule applicable to handlers and transporters of universal waste are less complex than the full Subtitle C regulations. Universal waste handlers who generate or manage items designated as universal waste must follow streamlined standards for storing universal waste, labeling and marking waste or containers, preparing and sending shipments of universal wastes off-site, employee training, and response to releases. Universal waste transporters must comply with all applicable Department of Transportation regulations and ensure transportation of universal waste to a universal waste handler or a destination facility. Transporters of universal waste do not have to comply with RCRA hazardous waste manifest requirements. However, destination facilities (i.e., facilities that treat, dispose, or recycle universal wastes) remain subject to all full Subtitle C management requirements applicable to permitted or interim status hazardous waste treatment, storage, and disposal facilities.

The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking. The regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights Program. The universal waste standards are less stringent and less costly than full Subtitle C standards. The reduced waste management costs associated with the final lamps rule should encourage additional participation in energy-efficient lighting programs and increase recycling of spent lamps. Studies have shown that participation in energy-efficient lighting programs reduces potential mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN SCSP-00137
COMMENTER Utility Solid Waste Activities Group
SUBJECT GEN
COMMENT In conclusion, the Agency has ample legal authority to exclude lighting wastes from the TC to preserve the environmental benefits of Green lights and other DSM programs. EPA also has ample precedent and justification for promulgating the exclusion as an interim final rule.
RESPONSE
The EPA does not disagree with the commenter on the Agency=s statutory authority to conditionally exclude mercury-containing lamps from full Subtitle C regulation. However, for the reasons explained in today=s preamble, the Agency has determined that the universal waste rule is the best approach for streamlining the management standards for mercury-containing lamps while

ensuring protection of the environment.

The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking. The regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights Program. The universal waste standards are less stringent and less costly than full Subtitle C standards. The reduced waste management costs associated with the final lamps rule should encourage additional participation in energy-efficient lighting programs and increase recycling of spent lamps. Studies have shown that participation in energy-efficient lighting programs reduces potential mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN SCSP-00137
COMMENTER Utility Solid Waste Activities Group
SUBJECT GEN
COMMENT III. The Lighting Waste Exemption Must be Implemented as Expeditiously as Possible. For Green Lights and other DSM programs to succeed, it is imperative that the lighting waste exclusion be issued as soon as possible on an interim final basis. As EPA correctly recognized in the case of the TC exclusions for produced groundwater and recycled CFC refrigerants, issuance of an interim final rule in these circumstances -- to preserve and promote an environmentally beneficial pollution prevention program -- is in the public interest and therefore is entirely appropriate under the "good cause" exemption of the Administrative Procedure Act ("APA"). 5 U.S.C. 553(b)(B), (d). The APA authorizes EPA to dispense with notice and comment when the Agency "for 'good cause' finds" that notice and comment would be "contrary to the public interest." Id. (b)(B). While this exception has been construed narrowly, courts have recognized that it is appropriate in circumstances where immediate action is required to address an emergency situation or where failure to act would result in disruption of an on-going regulatory program. Thus, for example, when the D.C. Circuit remanded the Agency's "mixture" and "derived-from" rules for failure to provide adequate notice and comment, the court

stated that the Agency would have 'good cause' to re-promulgate the rules on an interim final basis to avoid disruption of its hazardous waste program. Shell Oil Co. v. EPA, 950 F.2d 741, 752 (D.C. Cir. 1991). Further, in Mid-Tex Electric Cooperative, Inc. v. FERC, the court explained, in finding that 'good cause' existed for the issuance of an interim rule by FERC, that the '" good cause' inquiry is inevitably fact- or context-dependent" and emphasized that "a rules temporally limited scope is among the key considerations in evaluating an agency's good cause claim." 822 F.2d 1123, 1132 (D.C. Cir. 1987). The issuance of an interim final rule for lighting wastes would satisfy the criteria of both decisions. First, USWAG is not suggesting that the rule be promulgated on a permanent basis without notice and comment, but merely that it be promulgated on an interim basis with a specific expiration date. This approach would impose a temporal limit on the exclusion while preserving the important emission savings already achieved under Green Lights and other DSM programs while the Agency takes comment on the appropriateness of a permanent exclusion. Second, an interim rule is necessary to avoid serious disruption to the development of EPA's existing Green Lights efforts. As long as lighting wastes remain subject to the albatross of full Subtitle C regulation, Green Lights and other DSM programs will simply not get off the ground and significant emission reductions will be unnecessarily sacrificed without any net environmental gain. Immediate relief from full Subtitle C regulation is therefore necessary and in the public interest. [9] [Footnote 9: Moreover, because the rule would provide an exemption from regulation and would not require time to come into compliance, good cause also exists for the exemption to become immediately effective. 5 U.S.C. 553 (d).] Most important, immediate action is necessary because some companies that are already participating in Green Lights and other DSM programs may already be in an emergency situation regarding compliance with RCRA's land ban storage prohibition (RCRA 3004(j)). In particular, some of the lighting wastes generated from participating in these programs exhibit the TC under the EP procedure (see Attachment B) and do not fall within EPA's definition of "debris" (because the lighting wastes do not meet the 60 mm minimum particle size limitation). [10] [Footnote 10: See 57 Fed. Reg. 37194, 37270 (Aug. 18, 1992) (to be codified at 40 C.F.R. 268.2(g)).] Therefore, these materials are currently subject to RCRA's land ban program, including the

> storage prohibition. A serious compliance problem arises because certain of these wastes fall into the high mercury subcategory for prohibited wastes, for which there is currently inadequate treatment and disposal capacity. Therefore, when taken out of service, these wastes must be stored until adequate treatment or disposal capacity becomes available. As you know, however, EPA has interpreted the storage prohibition to preclude storage of wastes pending development of qualified treatment or disposal capacity. See 56 Fed. Reg. 42730, 42732 (Aug. 29, 1991). Therefore, current participants in Green Lights may be thrust into immediate noncompliance with RCRA's land ban storage prohibition simply because there is inadequate treatment or disposal capacity when the lighting fixtures are taken out of service. This dilemma will become even more severe on May 8, 1993, when the current capacity variance for hazardous debris is scheduled to expire and additional lighting wastes (those that exhibit the TC by the EPA test and fall within the definition of "debris") become subject to the land ban program. Clearly, utilities will not participate in Green Lights or other DSM program if participation means being thrust into immediate noncompliance with RCRA's land ban storage prohibition. This management crisis for the storage of lighting wastes justifies immediate relief on an interim basis. Without such relief, the imposition of the storage prohibition on lighting wastes will seriously disrupt, if not terminate altogether, Green Lights and other DMS programs.

RESPONSE

The Agency thanks the commenter for the comments and analysis submitted in response to the proposed rule. However, the EPA had determined that an emergency interim final rule was not warranted. In today=s rule, the Agency is not finalizing the conditional exclusion option for the management of hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The Agency has determined that hazardous waste lamps meet the criteria established for designating a material as 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 full Subtitle C requirements for hazardous waste treatment, storage, and disposal facilities.

The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking. The regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights Program. The universal waste standards are less stringent and less costly than full Subtitle C standards. The reduced waste management costs associated with the final lamps rule should encourage additional participation in energy-efficient lighting

programs and increase recycling of spent lamps. Studies have shown that participation in energy-efficient lighting programs reduces potential mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade=s internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.

DCN FLEP-00187
COMMENTER PacifiCorp
SUBJECT GEN
COMMENT In short, because mercury-containing lamps do not pose a threat to human health and the environment when managed in MSWLFs, the continued regulation of these materials under the hazardous waste program would be nothing less than arbitrary and capricious.

II. THE AGENCY HAS AMPLE LEGAL AUTHORITY TO PURSUE THE CONDITIONAL EXCLUSION.

In view of the technical record demonstrating that mercury-containing lamps do not pose a threat to human health and the environment when managed in MSWLFs, EPA is fully authorized under the statute to determine that the lamps do not warrant hazardous waste regulation. Nothing in the statutory definition of "hazardous waste" and the scope of RCRA's hazardous waste program under section 3001 of the statute requires EPA to take materials that present no threat to human health and the environment and subject them to the stringent full Subtitle C regulatory program. The Agency is fully within its statutory authority in pursuing the conditional exclusion option for mercury-containing lamps managed in a safe manner. The Agency itself has made the most compelling argument as to why the statutory definition of "hazardous waste" does not encompass mercury-containing lamps, managed in a manner that does not pose a threat to human health and the environment. EPA has correctly observed that the term "hazardous waste" is defined in the statute to include solid waste which "may... pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed." RCRA ' 1004(5), 42 U.S.C. ' 6903(5). While

EPA has generally interpreted this definition -- and thus the scope of the hazardous waste universe -- by considering "plausible" types of mismanagement that a waste could be subject to and determining the hazards presented by the waste under that scenario, the Agency correctly acknowledges that the statute does not require that the "hazardous waste designation always assume mismanagement of the waste in question." 57 Fed. Reg. 21450, 21455 (May 20, 1992). Rather, EPA may determine whether a waste is "hazardous" based on "how wastes are actually managed, rather than how they might be managed under a worst-case analysis." Id. (emphasis added). As EPA has explained, "[t]his approach is authorized by ... RCRA section 1004(5)" which "defines as 'hazardous' wastes which may present a hazard 'when mismanaged,' thus authorizing EPA to determine whether, and under what conditions, a waste may present a hazard and regulating the waste only under such conditions, i.e., when mismanaged." Id. Therefore, if EPA determines that mercury-containing lamps do not present a hazard when managed in qualified MSWLFs (which they do not, as documented by the technical record), it would be acting fully within statutory authority in declaring that such materials do not warrant hazardous waste regulation when managed under these conditions. This is precisely what EPA has proposed to do under the conditional exclusion option. Not only has the Agency staked out this interpretation of the statutory definition of hazardous waste in a earlier rulemaking, [5] it has taken this position in court and prevailed. In determining not to list used oil as a hazardous waste, the Agency found that existing used oil regulations adequately controlled any plausible mismanagement scenario. [Footnote 5: The forum in which the Agency set forth this position was the preamble to the proposed "hazardous waste identification rule" published on May 20,1992 (57 Fed. Reg. 21450). While that rule was not issued in final form due to a host of reasons unrelated to the definition of hazardous waste, the Agency nonetheless was articulating its extant authority under the statute for defining hazardous wastes based on actual management practices. See 57 Fed. Reg. at 21454-55. Indeed, Agency interpretive rules and policy positions are often set forth in proposed rules in order to establish the legal basis for the proposal.] The Agency therefore concluded that the used oil did not "pose a substantial threat to human health or the environment" and consequently did not warrant hazardous waste

regulation. 57 Fed. Reg. 21524, 21528, 21521 (May 20, 1992). In defending this decision on appeal (NRDC et. al. v. EPA, No. 92-1371 (D.C. Cir. 1993)), EPA reiterated its construction of the statutory definition of hazardous waste as authorizing the Agency to consider how a waste is actually managed -- in the absence of full Subtitle C controls -- in determining whether it will be improperly managed and thus pose a risk to human health and the environment. Brief of Respondent EPA at 31 (NRDC et al v. EPA, No. 92-1371) (emphasis added). EPA determined that listing used oil as hazardous waste was not necessary because, "given the comprehensiveness of the regulatory structure, it was unlikely that mismanagement of used oil destined for disposal could pose a substantial present or potential hazard to human health and the environment." Id. at 22. The Court of Appeals upheld the Agency's decision, explaining that EPA could consider the effectiveness of controls -- outside of the full Subtitle C system -- in determining whether a waste poses a risk to human health and the environment that warrants regulation as a listed waste. NRDC v. EPA, 25 F.3d 1063, 1072 (D.C. Cir. 1994) (See also id. at 1080 n.4 (Wald, dissenting)). While the NRDC decision focused on a listing determination, EPA correctly articulated in its brief that the legal underpinning of its argument applied to the hazardous characteristics (e.g. the TC regulation) as well as to the hazardous waste listings. Brief of Respondent EPA at 30. In light of the above, the Agency has clearly established the legal precedent for determining not to regulate a particular waste under full Subtitle C based on the finding that, if the waste is managed under a prescribed set of controls, it will not pose a risk to human health and the environment. This is precisely the finding underlying the proposed conditional exclusion for mercury-containing lamps. The Agency is thus fully empowered under RCRA to pursue this option.

RESPONSE

The Agency thanks the commenter for submitting comments on the proposed rule.

DCN FLEP-00191

COMMENTER Utility Solid Waste Activities Group

SUBJECT GEN

COMMENT A. RCRA Does Not Authorize the Regulation As "Hazardous Waste" Materials That Do Not Pose a Threat to Human Health and the Environment The statutory definition of "hazardous waste" and the scope of RCRA's hazardous waste program under section 3001

of the statute do not permit subjecting to the stringent full Subtitle C regulatory program materials that do not present a threat to human health and the environment. Therefore, the Agency clearly has statutory authority to promulgate the MSWLF option, which would establish that mercury- containing lighting wastes managed in MSWLFs or at qualified recycling facilities do not meet the definition of hazardous waste and are not subject to full Subtitle C regulation. The statutory definition of "hazardous waste" does not encompass mercury- containing lamps when such materials are managed in a manner that does not pose a threat to human health and the environment. As noted above, the term "hazardous waste" is defined in the statute to include solid waste which "may ... pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed." RCRA ' 1004(5), 42 U.S.C. ' 6903(5). The record clearly demonstrates that mercury-containing lamps managed in MSWLFs are not being mismanaged in a manner that pose a "substantial present or potential hazard to human health or the environment." Because the MSWLF option is limited to lighting wastes that are not being mismanaged and which do not present a threat to human health and the environment, such materials do not fall within the statutory definition of hazardous waste. Thus, the MSWLF option -- under which lighting wastes would not be classified as hazardous wastes - is not only authorized, but is in fact compelled by the statute. EPA itself has recognized this position. While the Agency has generally interpreted the definition of hazardous wastes -- and thus the scope of the hazardous waste universe -- by considering "plausible" types of mismanagement that a waste could be subject to and determining the hazards presented by the waste under that scenario, the Agency correctly acknowledges that the statute does not require that the "hazardous waste designation always assume mismanagement of the waste in question." 57 Fed. Reg. 21450, 21455 (May 20, 1992). Rather, EPA has acknowledged that it may determine whether a waste is "hazardous" based on wastes are actually managed, rather than how they might be managed under a worst- case analysis," Id. (emphasis added). As EPA has explained, "[t]his approach is authorized by ... RCRA section 1004(5)" which "defines as 'hazardous' wastes which may present a hazard 'when mismanaged,' thus authorizing EPA to determine whether, and under what conditions the waste may present at

hazard and regulating the waste only under such conditions, i.e., when mismanaged." Id.

RESPONSE

The Agency thanks the commenter for submitting comments on the proposed rule.

DCN FLEP-00191

COMMENTER Utility Solid Waste Activities Group

SUBJECT GEN

COMMENT There is ample legal precedent for determining not to regulate a particular waste under full Subtitle C based on the finding that, if the waste is managed in a particular manner, it will not pose a risk to human health and the environment. This is the legal rationale underlying the proposed MSWLF option for mercury-containing lamps and the Agency is fully empowered under RCRA to pursue this option. Keeping mercury-containing lamps under the web of hazardous waste regulation is not only unwarranted, it will result in the continued forfeiture of emissions savings due to the understandable reluctance of the regulated community to participate in Green Lights and similar energy efficient relamping programs. This result is nonsensical and environmentally counterproductive. The MSWLF option will result in the greatest reduction in mercury loadings to the environment because it will ensure maximum participation in Green Lights and other energy-efficient relamping programs. EPA correctly recognizes "that there is a clear net environmental benefit from energy-efficient lighting, even when lamp disposal is taken into account."

Therefore, because mercury-containing lamps do not present a hazard when managed in MSWLFs, the Agency is fully within its statutory authority to declare that such materials do not warrant hazardous waste regulation when managed under these conditions. This is precisely what EPA has proposed to do under the MSWLF option.

RESPONSE

The Agency thanks the commenter for submitting comments on the proposed rule.

The Agency appreciates the commenter=s interest in the hazardous waste lamp rulemaking. The regulatory approach finalized today will not affect participation in energy-efficient lighting programs such as EPA=s Green Lights Program. The universal waste standards are less stringent and less costly than full Subtitle C standards. The reduced waste management costs associated with the final lamps rule should encourage additional participation in energy-efficient lighting

programs and increase recycling of spent lamps. Studies have shown that participation in energy-efficient lighting programs reduces potential mercury (as well as other pollutant) air emissions associated with the burning of fossil fuels for electricity generation.

The Agency performed calculations on the impact of disposal costs on a lighting upgrade's internal rate of return (IRR). At a $0.50/lamp transportation and recycling cost, the IRR for a typical project over ten years is 51 percent. At a $1.00/lamp transportation and recycling cost the IRR was 50 percent, which is only a slight decrease in IRR, despite a 100 percent increase in waste management costs. This result suggests that the cost associated with the participation in energy-efficient lighting programs is largely independent of the regulatory options chosen by EPA.