

US EPA ARCHIVE DOCUMENT

DCN FLEP-00003

COMMENTER Duke Power Company

SUBJECT EXCL7

COMMENT Given the above data, it appears completely unwarranted to require disposal of lighting waste in MSWLF (lined) landfills, and certainly not management as a hazardous waste under the Universal Waste Rule or full Subtitle C restrictions. With the data not supporting such restrictive management of lighting waste the question must be asked, why has EPA had this apparent change in position after an earlier position to grant a complete exemption. The answer seems to be a political one to appease special interest lobbying elements which are concerned about their business profits. With all due respect, that should not be the primary criteria on which the management decision on lighting waste is based. The debate should be one based on scientific information, and with that it is clear an exclusion should be granted to include the disposal of lighting waste in any Subtitle D (unlined) facility. If the data indicated a moderate level of environmental or public health danger from leachate, then the conditional exclusion requiring generators to either dispose lamps in a MSW landfill that is permitted by a State with an EPA-approved MSW permitting program, or recycling at a State approved reclamation facility, would be appropriate. However, the available data does not indicate an environmental or public health concern. Therefore, what is to be gained by forcing businesses and industry to develop special handling, storage, record keeping, transportation, and disposal procedures for a waste stream the RTP Report characterizes as "negligible" and "insignificant"?

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 (i.e., the universal waste rule standards are less stringent than full Subtitle C management standards). Given that there is a significant likelihood for mercury to be released from hazardous waste lamps during storage and transport of the waste, the Agency determined that it is necessary to establish controls for the safe management of spent lamps prior to final disposition of the waste. The universal waste rule provides a framework for controlling the management of spent lamps during storage and transport. The Agency believes that management controls for hazardous waste lamps are necessary to minimize releases of mercury and other hazardous constituents to the environment.

during lamp accumulation and transport, to ensure safe handling of such lamps, and to keep hazardous waste lamps out of municipal waste facilities (both landfills and solid waste incinerators). Mercury is high on the Agency's priority list of toxic pollutants, along with other heavy metals such as cadmium and lead. These metals have been identified as constituents of some waste lamps.

As required by the Clean Air Act Amendments of 1990, the Agency issued the *Mercury Study Report to Congress*. The study estimates the quantity of mercury emissions to the air from a number of human activities, estimates the health and environmental impacts associated with these mercury emissions, and describes the technologies available to control mercury emissions from these sources. The report concludes that there is cause to seek further reductions in mercury releases and exposures to mercury.

Spent hazardous waste lamps are a significant source of mercury in the municipal solid waste stream, possibly accounting for as much as 3.8 percent of all mercury now going to municipal landfills. The Agency does not have data characterizing the behavior of mercury in different types of landfills over long time periods. 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.

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

DCN FLEP-00025

COMMENTS Environmental Energy Group/NAEP

SUBJECT EXCL7

COMMENT If RCRA Subtitle D facilities are designated to become the primary route of disposal for electric lamps currently under the rule (Subtitle C) this suggests relaxed approaches should be made available for industrially generated sources of other (Subtitle C) mercury contaminated wastes to be disposed of at these facilities. Other wastes of similar chemical character (to hazardous waste electric lamps, containing mercury, lead, cadmium, or combinations thereof) should also be considered for these universal exemptions i.e., soils containing mercury testing above the TCLP limit.

RESPONSE

The Agency does not believe that its proposed conditional exclusion approach would sufficiently protect human health and the environment. EPA gave considerable weight to actions that would

minimize mercury emissions to the environment while encouraging the collection and environmentally-sound management of spent lamps. Based upon commenter input and additional information collected and reviewed by the Agency since the publication of the proposed rule, EPA decided to adopt the proposed universal waste approach for controlling potential risks from the management of spent hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., universal waste rule is less stringent than full Subtitle C management standards). Examples of common hazardous waste lamps include, but are not limited to, fluorescent, high intensity discharge, neon, mercury vapor, high pressure sodium, and metal halide lamps. Spent lamps that do not exhibit any hazardous waste characteristic are not subject to full Subtitle C regulation or universal waste management regulations. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273.

DCN FLEP-00062

COMMENTER Phillips Petroleum Company

SUBJECT EXCL7

COMMENT Phillips recommends that the terms of the exclusion be extended to allow disposal of mercury-containing lamps in industrial solid waste (Subtitle D) disposal facilities. This would allow states with strong industrial Subtitle D programs (e.g. Texas) the option of allowing disposal in its permitted, licensed or registered facilities.

RESPONSE

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The Agency believes that management controls for hazardous waste lamps are necessary to minimize releases of mercury and other hazardous constituents to the environment during lamp

accumulation and transport, to ensure safe handling of such lamps, and to keep hazardous waste lamps out of municipal waste facilities (both landfills and solid waste incinerators). Mercury is high on the Agency's priority list of toxic pollutants, along with other heavy metals such as cadmium and lead. These metals have been identified as constituents of some waste lamps.

As required by the Clean Air Act Amendments of 1990, the Agency issued the *Mercury Study Report to Congress*. The study estimates the quantity of mercury emissions to the air from a number of human activities, estimates the health and environmental impacts associated with these mercury emissions, and describes the technologies available to control mercury emissions from these sources. The report concludes that there is cause to seek further reductions in mercury releases and exposures to mercury.

Spent hazardous waste lamps are a significant source of mercury in the municipal solid waste stream, possibly accounting for as much as 3.8 percent of all mercury now going to municipal landfills. The Agency does not have data characterizing the behavior of mercury in different types of landfills over long time periods. 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. Further data and analysis are necessary to evaluate the potential for mercury to be released in landfill leachate as a landfill ages.

DCN FLEP-00101

COMMENTS Montana-Dakota Utility Company

SUBJECT EXCL7

COMMENT I. Virtually everyone and every business has a light bulb waste stream. Studies referenced in the 27 July Federal Register showed mercury in light bulbs are "locked up" with solid waste when landfilled and the waste stream has a minimal effect on the environment. This information suggests that spent light bulbs may be safely disposed in ordinary landfills.

RESPONSE

To protect human health and the environment from potential releases of mercury and other hazardous constituents during storage, transport and final management of spent hazardous waste lamps, the Agency has decided to promulgate the universal waste option from the proposed rule. The universal waste rule provides a reduced, or streamlined set of requirements. The universal waste rule provides a platform for regulating the collection and transportation of certain low risk hazardous waste in a manner that is protective, while reducing the burden to generators and collectors of the wastes. Under this option, destination facilities are fully regulated under full Subtitle C.

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DCN FLEP-00141

COMMENTS DOW Chemical Company

SUBJECT EXCL7

COMMENT REQUEST FOR LEACHATE DATA At 59 FR 38291 and 38294, the Agency requests information on leachate quality from industrial solid waste landfills. Dow has no relevant leachate from industrial solid waste landfills. However, one of Dow's sites desires, as a backup, to dispose of mercury-containing lamps in its on-site, industrial solid waste landfill. This landfill is permitted under Louisiana solid waste regulations, (promulgated on February 20, 1993). These Louisiana regulations govern both industrial and municipal solid waste landfills and have been determined by EPA to be adequate to administer the municipal Subtitle D program (58 FR 58860, November 4, 1993). This on-site landfill is, by design, as protective of the environment as Louisiana municipal landfills for disposal of mercury-containing lamps. Thus, this landfill, and all others meeting, or exceeding, the design standards for municipal solid waste landfills should, be included in the exclusion.

RESPONSE

In today's rule, the Agency is not finalizing the conditional exclusion option for the management

of hazardous waste lamps. Based upon commenter input and additional information collected and reviewed by the Agency since the publication of the proposed rule, EPA decided to adopt the proposed universal waste approach for controlling potential risks from the management of spent hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., the universal waste rule is less stringent than full Subtitle C management standards). Studies conducted by the Agency indicate that a significant potential for mercury emissions and the release of other hazardous constituents from spent lamps occurs during storage and transport.

Adding spent hazardous waste lamps to 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. An added benefit of the universal waste approach is that the reduced cost of managing spent lamps may result in a greater quantity of lamps being collected and recycled and fewer hazardous waste lamps may be managed in the municipal solid waste stream. Therefore, the number of lamps going to municipal combustors may decrease and the potential for lamps to be crushed and/or broken in uncontrolled environments during storage and transport (e.g., dumpsters and garbage trucks) will decline.

Under the universal waste option being implemented today, spent hazardous waste lamps that exhibit a characteristic of hazardous waste must ultimately be managed at destination facilities that are fully regulated under full Subtitle C.

The Agency believes that management controls for hazardous waste lamps are necessary to minimize releases of mercury and other hazardous constituents to the environment during lamp accumulation and transport, to ensure safe handling of such lamps, and to keep hazardous waste lamps out of municipal waste facilities (both landfills and solid waste incinerators). Mercury is high on the Agency's priority list of toxic pollutants, along with other heavy metals such as cadmium and lead. These metals have been identified as constituents of some waste lamps.

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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. Further data and analysis are necessary to evaluate the potential for mercury to be released in landfill leachate as a landfill ages.

DCN FLEP-00141

COMMENTS Dow Chemical Company

SUBJECT EXCL7

COMMENT If the exclusion were adopted as proposed, this Dow site would have to send any mercury-containing lamps which fail the TC test, off-site to a municipal solid waste landfill when the on-site industrial solid waste landfill provides equivalent protection of the environment, and the normal hazardous waste incineration and disposal would provide even greater protection of the environment. This certainly fails to offer any additional environmental protection. The exclusion should be broadened to include disposal in either an industrial non-hazardous landfill, designed to the same standards as required for municipal landfills or a hazardous landfill, at the generator's discretion. If a hazardous waste landfill is selected, full Subtitle C controls, such as waste analysis, classification, and LDR, should not be triggered since hazardous waste landfills are more protective of the environment than municipal, nonhazardous landfills. Other nonhazardous landfills should be included with regional administrator approval of a demonstration that they are designed to be at least as protective as are municipal landfills. Additionally, any landfill which had historically disposed of mercury-containing lamps which did not fit a category for which EPA has data should be able to be included in this exclusion by submitting a one time certification that an analysis of its leachate showed it contained less than 0.0098 mg/L of mercury, the highest data for the MSW the proposed exclusion would contain (59 FR 38291).

RESPONSE

In today's rule, the Agency is not finalizing the conditional exclusion option for the management of hazardous waste lamps. Based upon commenter input and additional information collected and reviewed by the Agency since the publication of the proposed rule, EPA decided to adopt the proposed universal waste approach for controlling potential risks from the management of spent hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., the universal waste rule is less stringent than full Subtitle C management standards). Studies conducted by the Agency indicate that a significant potential for mercury

emissions from spent lamps occurs during storage and transport. Uncontrolled crushing and breaking of lamps allows mercury to be emitted into the air.

Adding spent hazardous waste lamps to 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. An added benefit of the universal waste approach is that the reduced cost of managing spent lamps may result in a greater quantity of lamps being collected and recycled and fewer hazardous waste lamps may be managed in the municipal solid waste stream. Therefore, the number of lamps going to municipal combustors may decrease and the potential for lamps to be crushed and/or broken in uncontrolled environments during storage and transport (e.g., dumpsters and garbage trucks) will decline.

Under the universal waste option being implemented today, spent hazardous waste lamps that exhibit a characteristic of hazardous waste must ultimately be managed at destination facilities that are fully regulated under full Subtitle C.

The Agency believes that management controls for hazardous waste lamps are necessary to minimize releases of mercury and other hazardous constituents to the environment during lamp accumulation and transport, to ensure safe handling of such lamps, and to keep hazardous waste lamps out of municipal waste facilities (both landfills and solid waste incinerators). Mercury is high on the Agency's priority list of toxic pollutants, along with other heavy metals such as cadmium and lead. These metals have been identified as constituents of some waste lamps.

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DCN FLEP-00141
COMMENTS Dow Chemical Company

SUBJECT EXCL7

COMMENT To incorporate these suggestions Dow suggests that 40 CFR ' 261.4(b)(16) be changed to read: Mercury-containing lamps which are disposed of in: (A) municipal solid waste landfills in States or Indian Tribes with an EPA approved State or Tribal municipal solid waste landfill program, or (B) other landfills which the Regional Administrator has determined meet or exceed the design requirements of any landfill meeting the requirements of alternative A above, or any landfill which disposed of mercury-containing lamps prior to July 27, 1994 and which submits a certification to the Regional Administrator that an analysis shows the leachate from such landfill contains less than 0.0098 mg/L of mercury, or (D) managed in a mercury reclamation facilities that are permitted, licensed or registered by a State or Tribe.

RESPONSE

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DCN FLEP-00141

COMMENTS DOW Chemical Company

SUBJECT EXCL7

COMMENT CATEGORICAL EXCLUSION EXPANSION In response to EPA's request for comments regarding the expansion of the exclusion to include non-hazardous landfills other than municipal ones, Dow suggests, above, that the exclusion should apply to all landfills whose design which meet or exceed the protection provided by the federal municipal design standards (40 CFR 258, promulgated in 56 FR 51021, October 9, 1991), or, for those which have historically disposed of mercury-containing lamps, which submit a one-time certification that their leachate contains less than 0.0098 mg/L of mercury, the highest data for the MSW the proposed exclusion would contain (59 FR 38291).

RESPONSE

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DCN FLEP-00156

COMMENTS National Electrical Manufacturers Assn.

SUBJECT EXCL7

COMMENT Landfilling in both municipal Subtitle D landfills that meet the Federal requirements for new landfill units, as well as industrial solid waste landfills that meet those same standards, should be allowed under the exclusion.

RESPONSE

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DCN FLEP-00156

COMMENTER National Electrical Manufacturers Assn.

SUBJECT EXCL7

COMMENT 1. EPA proposes that generators be required to dispose of lamps in a municipal solid waste (MSW) landfill that is permitted by a State/Tribe with an EPA-approved MSW permitting program. NEMA believes that spent lamps in regulated quantities that fail the TC should be disposed only in landfill units that are lined and have leachate collection systems or otherwise meet the Subtitle D criteria for new landfill units. This would include industrial waste landfills that meet the criteria. This ensures that even though landfill leaching does not appear to be a route of environmental exposure, all leachate will be fully managed.

RESPONSE

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DCN FLEP-00159

COMMENTS Motorola, Inc.

SUBJECT EXCL7

COMMENT 2. Scope of the Conditional Exclusion. Motorola is concerned that EPA has limited the application of the Conditional Exclusion to the disposal in municipal solid waste landfills. This is especially troublesome as a number of states in which we have a large concentration of facilities regulate fluorescent

light bulbs as either "special" or "industrial" solid waste. EPA does not adequately explain why the data for municipal landfills would not be equally characteristic of, or applicable to, more stringent regulated state permitted landfills. Motorola recommends that EPA expand the scope of the Conditional Exclusion to include disposal in "Industrial" or "special" state waste landfills. Typically, these state permitted facilities are subject to much greater regulatory control than municipal waste landfills. Such an approach would allow states the discretion to exclude bulbs from municipal landfills and still provide an option other than hazardous waste landfills. The preamble discussion suggests the characteristic behavior of mercury in landfills would justify such an expansion of scope and application for the Conditional Exclusion. As noted in the proposed rule, in a separate project, EPA is reevaluating the regulatory levels for metals, including mercury, in the TCLP, which defines toxicity for characteristic hazardous waste. As part of that project, EPA is developing a metal speciation model called MINTEQ which will evaluate the fate and transport of the TCLP metals. EPA's preliminary analysis indicates that mercury may be less mobile in landfills than the TCLP indicates: Mercury that would leach out of landfills would not all necessarily travel through the ground water to contaminate drinking water wells, depending on the distance of the well. A certain percentage (still to be determined) will combine with other substances in the soil (via complexation, adsorption, etc.) to form solid substances and remain in the soil. 59 Fed Reg. 38,289, Col. 1. It is important to note that EPA does not limit this analysis to mercury behavior at municipal landfills. Motorola respectfully submits that EPA should either expand the scope and application of the Conditional Exception to include state permitted "special" or "industrial solid" waste facilities, or explain in great detail why such an expansion in scope is unacceptable.

RESPONSE

In today's rule, the Agency is not finalizing the conditional exclusion option for the management of hazardous waste lamps. Based upon commenter input and additional information collected and reviewed by the Agency since the publication of the proposed rule, EPA decided to adopt the proposed universal waste approach for controlling potential risks from the management of spent hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., the universal waste rule is less stringent than full Subtitle C management

standards). Studies conducted by the Agency indicate that a significant potential for mercury emissions from spent lamps occurs during storage and transport. Uncontrolled crushing and breaking of lamps allows mercury to be emitted into the air.

Adding spent hazardous waste lamps to 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. An added benefit of the universal waste approach is that the reduced cost of managing spent lamps may result in a greater quantity of lamps being collected and recycled and fewer hazardous waste lamps may be managed in the municipal solid waste stream. Therefore, the number of lamps going to municipal combustors may decrease and the potential for lamps to be crushed and/or broken in uncontrolled environments during storage and transport (e.g., dumpsters and garbage trucks) will decline.

Under the universal waste option being implemented today, spent hazardous waste lamps that exhibit a characteristic of hazardous waste must ultimately be managed at destination facilities that are fully regulated under full Subtitle C.

The Agency believes that management controls for hazardous waste lamps are necessary to minimize releases of mercury and other hazardous constituents to the environment during lamp accumulation and transport, to ensure safe handling of such lamps, and to keep hazardous waste lamps out of municipal waste facilities (both landfills and solid waste incinerators). Mercury is high on the Agency's priority list of toxic pollutants, along with other heavy metals such as cadmium and lead. These metals have been identified as constituents of some waste lamps.

As required by the Clean Air Act Amendments of 1990, the Agency issued the *Mercury Study Report to Congress*. The study estimates the quantity of mercury emissions to the air from a number of human activities, estimates the health and environmental impacts associated with these mercury emissions, and describes the technologies available to control mercury emissions from these sources. The report concludes that there is cause to seek further reductions in mercury releases and exposures to mercury.

Spent hazardous waste lamps are a significant source of mercury in the municipal solid waste stream, possibly accounting for as much as 3.8 percent of all mercury now going to municipal landfills. The Agency does not have data characterizing the behavior of mercury in different types of landfills over long time periods. 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. Further data and analysis are necessary to evaluate the potential for mercury to be released in landfill leachate as a landfill ages mercury to be emitted into the air.

DCN FLEP-00163

COMMENTS Massachusetts Dept. of Environ. Prot.

SUBJECT EXCL7

COMMENT With respect to allowing landfilling of SFLS, the MA DEP feels that this option should be explored further and is interested in data EPA receives during the comment period for this proposal. However, at this time the MA DEP does not agree that SFLs known to be a hazardous waste should be allowed into Subtitle D landfills. Initially the MA DEP Hazardous Waste program considered a partial ban that would prohibit landfilling large quantities of SFLs (that are a hazardous waste) and exempt relatively small quantities. This approach could have provided relief to smaller businesses that cannot realistically be expected to manage a small number of SFLs as a hazardous waste. However, on further reflection, MA DEP decided that under the current Massachusetts solid and hazardous waste regulations (which do not exempt Conditionally Exempt Small Quantity Generators, CESQGS) a partial landfill ban would be nearly impossible to implement. MA DEP's Division of Solid Waste Management will consider the possibility of allowing SFLs to be disposed of in Subtitle D landfills as one part of an option that is consistent with its waste management hierarchy and long term goals. However, Massachusetts now combusts approximately 50 percent of its municipal solid waste, which includes waste from many small-businesses. After being picked up, solid waste is typically-consolidated at a transfer station and, depending on capacity and other market conditions, taken to either to a landfill or incinerator. If SFLs are put into the "normal" solid waste stream, many of the SFLs will end up in incinerators. This concern leads MADEP to believe that the most effective (but not necessarily the most desirable) way to ban SFLs from incineration is to also ban them from landfills. One alternative would be a special collection system that ships SFLs directly to landfills. However, MA DEP feels that the downside to this option is that: it would allow truckloads of concentrated SFL waste into Subtitle D landfills, as opposed to smaller quantities of lamps commingled with large volumes of solid waste. MA DEP is reluctant to adopt this practice without more data on mercury releases in landfills, particularly landfills containing high volumes of concentrated mercury waste.

RESPONSE

The Agency would like to thank the commenter for providing comments on different possibilities for regulating mercury lamps in solid waste landfills. In today's rule, the Agency is promulgating

the universal waste option for management of hazardous waste lamps. The universal waste rule was established to provide a streamlined, reduced set of management standards for certain hazardous wastes that are widely generated by a diverse universe of generators. The universal waste rule provides a platform for regulating the collection and transportation of certain low risk hazardous waste in a manner that is protective, while reducing the burden to generators and collectors, and at the same time ensuring that these wastes are ultimately destined for fully regulated hazardous waste management facilities. Under the universal waste option being implemented today, destination facilities are fully regulated under full Subtitle C.

The Agency has decided to implement the universal waste option because spent lamps fit the criteria for universal waste, and the regulations for universal waste provide a reduced, or streamlined set of requirements. Studies conducted by the Agency indicate that a significant potential for mercury emissions from spent lamps occurs during storage and transport. The universal waste regulations control universal waste management from the point of generation to disposal, which allows the Agency to minimize mercury emissions where they are potentially most acute. The conditional exclusion option, on the other hand, does not adequately regulate the storage or transportation of the hazardous waste lamps.

An added benefit of the universal waste approach is that the reduced cost of managing spent lamps may result in a greater quantity of lamps being collected and recycled and fewer hazardous waste lamps may be managed in the municipal solid waste stream. Therefore, the number of lamps going to municipal combustors may decrease and the potential for lamps to be crushed and/or broken in uncontrolled environments during storage and transport (e.g., dumpsters and garbage trucks) will decline.

DCN FLEP-00165

COMMENTS Ohio Chamber of Commerce

SUBJECT EXCL7

COMMENT Position on Subtitle D Landfilling (for landfill owner/operators) We are entirely comfortable with a regulatory approach that allows landfilling of spent lamps in state-permitted municipal landfills that meet Subtitle D standards for new landfill units. EPA studies have clearly demonstrated that landfilling of mercury-containing lamps presents little risk to human health or the environment. Mercury has been shown not to leach or otherwise escape from municipal landfills, and indeed, the quantity of lamps assumed to be disposed in landfills each year (250 million pounds) is insignificant in comparison to the 1 million tons of household hazardous waste and the 160 million tons of municipal waste landfilled each year. Air emissions due to breakage can be controlled through proper handling and packaging practices, and,

as indicated earlier, the regulatory provisions should address crushing of lamps.

RESPONSE

In today's rule, the Agency is not finalizing the conditional exclusion option for the management of hazardous waste lamps. Based upon commenter input and additional information collected and reviewed by the Agency since the publication of the proposed rule, EPA decided to adopt the proposed universal waste approach for controlling potential risks from the management of spent hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., the universal waste rule is less stringent than full Subtitle C management standards). Studies conducted by the Agency indicate that a significant potential for mercury emissions from spent lamps occurs during storage and transport. Uncontrolled crushing and breaking of lamps allows mercury to be emitted into the air. The final rule published today includes standards for handlers of spent lamps governing the accumulation, storage, and packaging of lamps to prevent mercury emissions and the release of other hazardous constituents to the environment.

Adding spent hazardous waste lamps to 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. An added benefit of the universal waste approach is that the reduced cost of managing spent lamps may result in a greater quantity of lamps being collected and recycled and fewer hazardous waste lamps may be managed in the municipal solid waste stream. Therefore, the number of lamps going to municipal combustors may decrease and the potential for lamps to be crushed and/or broken in uncontrolled environments during storage and transport (e.g., dumpsters and garbage trucks) will decline.

Under the universal waste option being implemented today, spent hazardous waste lamps that exhibit a characteristic of hazardous waste must ultimately be treated and disposed or recycled at destination facilities that are fully regulated under full Subtitle C.

The Agency believes that management controls for hazardous waste lamps are necessary to minimize releases of mercury and other hazardous constituents to the environment during lamp accumulation and transport, to ensure safe handling of such lamps, and to keep hazardous waste lamps out of municipal waste facilities (both landfills and solid waste incinerators). Mercury is high on the Agency's priority list of toxic pollutants, along with other heavy metals such as cadmium and lead. These metals have been identified as constituents of some waste lamps.

As required by the Clean Air Act Amendments of 1990, the Agency issued the *Mercury Study Report to Congress*. The study estimates the quantity of mercury emissions to the air from a number of human activities, estimates the health and environmental impacts associated with these mercury emissions, and describes the technologies available to control mercury emissions from

these sources. The report concludes that there is cause to seek further reductions in mercury releases and exposures to mercury.

Spent hazardous waste lamps are a significant source of mercury in the municipal solid waste stream, possibly accounting for as much as 3.8 percent of all mercury now going to municipal landfills. The Agency does not have data characterizing the behavior of mercury in different types of landfills over long time periods. 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. Further data and analysis are necessary to evaluate the potential for mercury to be released in landfill leachate as a landfill ages mercury to be emitted into the air.

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

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

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

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

DCN FLEP-00166

COMMENTER American Electric Power Service Corp.

SUBJECT EXCL7

COMMENT a. The Conditional Exclusion should not be limited only to municipal solid waste (MSW) facilities which are registered, licensed or permitted by states. In EPA's discussion of Option 1 under the proposed exclusion (i.e., disposal in a MSW landfill), the Agency requests comments on whether it is appropriate to limit the exclusion to MSW landfills registered, licensed or permitted by states or Tribes with an EPA-approved MSW program. Also mentioned is the possibility of expanding the exclusion to non-municipal, solid waste, Subtitle D disposal facilities (see 59 ER-38294, Column 1). AEP supports the expansion of the proposed exclusion to include non-MSW Subtitle D facilities as discussed below. The exclusion is intended to exempt lighting waste from RCRA regulatory requirements which are unnecessary. From a practical standpoint, these requirements include separation of lighting waste from the municipal solid waste stream, segregation of MSW and lighting waste during storage, separate transportation of lighting waste and MSW for disposal, and individual record keeping for each waste stream. If the exclusion is not expanded to include non-MSW Subtitle D landfills, generator facilities operating in states which do not have an EPA-approved MSW program or which are not in close proximity to a licensed, registered, or permitted MSW facility, will still be forced to handle lighting waste separately from their other wastes. In essence, the exclusion's purpose (i.e., removing over burdensome and unnecessary requirements) will be lost. From a technical standpoint, the data gathered from typical Subtitle D MSW facilities indicate that the mobility of mercury in Subtitle D facilities is, in general, very low. Thus, the threat posed by mercury in these facilities is also very low. Mercury behavior

from one Subtitle D facility to the next should be similar. If this is the case, then the technical evidence would not support limiting the exclusion to MSW Subtitle D facilities. In short, for both practical and technical reasons, the exclusion should not and need not be limited. Though it is our position that EPA should expand the exclusion to include other non-MSW Subtitle D facilities, should EPA choose not to, the Agency should clarify that the exclusion does not require that the licensed, registered, and permitted MSW facilities meet the new MSW design standards. In certain instances, EPA appears to imply that the MSW facilities should meet the new standards (see 59 FR 38293, Column 3, and 59 FR 38294, Columns 1 and 2). Again, it cannot be ignored that in some regions of the country there are no MSW facilities which are registered by the state and currently meet the new MSW standards. Therefore, we request that EPA restate that the exclusion requires that the MSW facilities simply be licensed, registered or permitted by the State or Tribe.

RESPONSE

In today's rule, the Agency is not finalizing the conditional exclusion option for the management of hazardous waste lamps. Based upon commenter input and additional information collected and reviewed by the Agency since the publication of the proposed rule, EPA decided to adopt the proposed universal waste approach for controlling potential risks from the management of spent hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., the universal waste rule is less stringent than full Subtitle C management standards). Studies conducted by the Agency indicate that a significant potential for mercury emissions and the release of other hazardous constituents from spent lamps occurs during storage and transport.

Adding spent hazardous waste lamps to 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. An added benefit of the universal waste approach is that the reduced cost of managing spent lamps may result in a greater quantity of lamps being collected and recycled and fewer hazardous waste lamps may be managed in the municipal solid waste stream. Therefore, the number of lamps going to municipal combustors may decrease and the potential for lamps to be crushed and/or broken in uncontrolled environments during storage and transport (e.g., dumpsters and garbage trucks) will decline.

Under the universal waste option being implemented today, spent hazardous waste lamps that exhibit a characteristic of hazardous waste must ultimately be managed at destination facilities that

are fully regulated under full Subtitle C.

The Agency believes that management controls for hazardous waste lamps are necessary to minimize releases of mercury and other hazardous constituents to the environment during lamp accumulation and transport, to ensure safe handling of such lamps, and to keep hazardous waste lamps out of municipal waste facilities (both landfills and solid waste incinerators). Mercury is high on the Agency's priority list of toxic pollutants, along with other heavy metals such as cadmium and lead. These metals have been identified as constituents of some waste lamps.

As required by the Clean Air Act Amendments of 1990, the Agency issued the *Mercury Study Report to Congress*. The study estimates the quantity of mercury emissions to the air from a number of human activities, estimates the health and environmental impacts associated with these mercury emissions, and describes the technologies available to control mercury emissions from these sources. The report concludes that there is cause to seek further reductions in mercury releases and exposures to mercury.

Spent hazardous waste lamps are a significant source of mercury in the municipal solid waste stream, possibly accounting for as much as 3.8 percent of all mercury now going to municipal landfills. The Agency does not have data characterizing the behavior of mercury in different types of landfills over long time periods. 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. Further data and analysis are necessary to evaluate the potential for mercury to be released in landfill leachate as a landfill ages.

DCN FLEP-00172

COMMENTS Natural Gas Pipeline Company of America

SUBJECT EXCL7

COMMENT LANDFILL OPTIONS Other nonhazardous industrial waste landfills, which are built to provide the same or greater level of protection as permitted MSW landfills, should also be authorized for disposal of these lamp\bulbs. Restricting disposal to permitted MSWs may provide disposal problems for remote facilities such as exist in the gas transmission industry where MSW landfills are becoming more difficult to access as landfill capacity is consumed.

RESPONSE

In today's rule, the Agency is not finalizing the conditional exclusion option for the management of hazardous waste lamps. Based upon commenter input and additional information collected and reviewed by the Agency since the publication of the proposed rule, EPA decided to adopt the proposed universal waste approach for controlling potential risks from the management of spent hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste

regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., the universal waste rule is less stringent than full Subtitle C management standards). Studies conducted by the Agency indicate that a significant potential for mercury emissions and the release of other hazardous constituents from spent lamps occurs during storage and transport.

Adding spent hazardous waste lamps to 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. An added benefit of the universal waste approach is that the reduced cost of managing spent lamps may result in a greater quantity of lamps being collected and recycled and fewer hazardous waste lamps may be managed in the municipal solid waste stream. Therefore, the number of lamps going to municipal combustors may decrease and the potential for lamps to be crushed and/or broken in uncontrolled environments during storage and transport (e.g., dumpsters and garbage trucks) will decline.

Under the universal waste option being implemented today, spent hazardous waste lamps that exhibit a characteristic of hazardous waste must ultimately be managed at destination facilities that are fully regulated under full Subtitle C.

The Agency believes that management controls for hazardous waste lamps are necessary to minimize releases of mercury and other hazardous constituents to the environment during lamp accumulation and transport, to ensure safe handling of such lamps, and to keep hazardous waste lamps out of municipal waste facilities (both landfills and solid waste incinerators). Mercury is high on the Agency's priority list of toxic pollutants, along with other heavy metals such as cadmium and lead. These metals have been identified as constituents of some waste lamps.

As required by the Clean Air Act Amendments of 1990, the Agency issued the *Mercury Study Report to Congress*. The study estimates the quantity of mercury emissions to the air from a number of human activities, estimates the health and environmental impacts associated with these mercury emissions, and describes the technologies available to control mercury emissions from these sources. The report concludes that there is cause to seek further reductions in mercury releases and exposures to mercury.

Spent hazardous waste lamps are a significant source of mercury in the municipal solid waste stream, possibly accounting for as much as 3.8 percent of all mercury now going to municipal landfills. The Agency does not have data characterizing the behavior of mercury in different types of landfills over long time periods. 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. Further data and analysis are necessary to evaluate the potential for mercury to be released in landfill leachate as a landfill ages.

DCN FLEP-00180

COMMENTS Food Marketing Institute

SUBJECT EXCL7

COMMENT Generally, FMI agrees with EPA's suggested conditions for the exclusion. Spent lamps should either be sent to a municipal solid waste landfill that is permitted by a state with an EPA-approved program (until further research indicates that non-municipal solid waste landfills under subtitle D are also adequate), or they should be recycled. Spent mercury-containing lamps should not be allowed to be sent to a municipal waste combustor for disposal.

RESPONSE

The Agency would like to thank the commenter for providing support for the conditional exclusion option in the mercury lamp proposed rule. After careful consideration, however, the Agency has decided to implement the universal waste option. The Agency does not believe that its proposed conditional exclusion approach would sufficiently protect human health and the environment. EPA gave considerable weight to actions that would minimize mercury emissions to the environment while encouraging the collection and environmentally-sound management of spent lamps. Based upon commenter input and additional information collected and reviewed by the Agency since the publication of the proposed rule, EPA decided to adopt the proposed universal waste approach for controlling potential risks from the management of spent hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., the universal waste rule is less stringent than full Subtitle C management standards).

The universal waste rule provides a platform for regulating the collection and transportation of certain low risk hazardous waste in a manner that is protective, while reducing the burden to generators and collectors of these wastes, and at the same time ensuring that these wastes are ultimately destined for fully-regulated hazardous waste management facilities. Studies conducted by the Agency indicate that a significant potential for mercury emissions from spent lamps occurs during storage and transport. The universal waste regulations control universal waste management from the point of generation to disposal, which allows the Agency to minimize mercury emissions where they are potentially most acute. The conditional exclusion option, on the other hand, does not adequately regulate the storage or transportation of the mercury lamps.

An added benefit of the universal waste approach is that the reduced cost of managing spent lamps may result in a greater quantity of lamps being collected and recycled and fewer hazardous waste lamps may be managed in the municipal solid waste stream. Therefore, the number of lamps going to municipal combustors may decrease and the potential for lamps to be crushed and/or broken in uncontrolled environments during storage and transport (e.g., dumpsters and garbage trucks) will decline.

DCN FLEP-00181

COMMENTS Exxon Chemical Americas

SUBJECT EXCL7

COMMENT The Agency should expand the disposal options (proposed as disposal to permitted municipal solid waste landfills or registered mercury reclamation facilities) to include permitted industrial solid waste landfills (non-hazardous or hazardous). Some manufacturing sites dispose of plant trash to industrial landfills only. Limiting disposal only to municipal landfills will result in additional collection trips/costs for local municipalities.

RESPONSE

In today's rule, the Agency is not finalizing the conditional exclusion option for the management of hazardous waste lamps. Based upon commenter input and additional information collected and reviewed by the Agency since the publication of the proposed rule, EPA decided to adopt the proposed universal waste approach for controlling potential risks from the management of spent hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., the universal waste rule is less stringent than full Subtitle C management standards). Studies conducted by the Agency indicate that a significant potential for mercury emissions and the release of other hazardous constituents from spent lamps occurs during storage and transport.

Adding spent hazardous waste lamps to 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. An added benefit of the universal waste approach is that the reduced cost of managing spent lamps may result in a greater quantity of lamps being collected and recycled and fewer hazardous waste lamps may be managed in the municipal solid waste stream. Therefore, the number of lamps going to municipal combustors may decrease and the potential for lamps to be crushed and/or broken in uncontrolled environments during storage and transport (e.g., dumpsters and garbage trucks) will decline.

Under the universal waste option being implemented today, spent hazardous waste lamps that exhibit a characteristic of hazardous waste must ultimately be managed at destination facilities that are fully regulated under full Subtitle C.

The Agency believes that management controls for hazardous waste lamps are necessary to minimize releases of mercury and other hazardous constituents to the environment during lamp accumulation and transport, to ensure safe handling of such lamps, and to keep hazardous waste lamps out of municipal waste facilities (both landfills and solid waste incinerators). Mercury is high on the Agency's priority list of toxic pollutants, along with other heavy metals such as

cadmium and lead. These metals have been identified as constituents of some waste lamps.

As required by the Clean Air Act Amendments of 1990, the Agency issued the *Mercury Study Report to Congress*. The study estimates the quantity of mercury emissions to the air from a number of human activities, estimates the health and environmental impacts associated with these mercury emissions, and describes the technologies available to control mercury emissions from these sources. The report concludes that there is cause to seek further reductions in mercury releases and exposures to mercury.

Spent hazardous waste lamps are a significant source of mercury in the municipal solid waste stream, possibly accounting for as much as 3.8 percent of all mercury now going to municipal landfills. The Agency does not have data characterizing the behavior of mercury in different types of landfills over long time periods. 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. Further data and analysis are necessary to evaluate the potential for mercury to be released in landfill leachate as a landfill ages.

DCN FLEP-00201

COMMENTS WMX Technologies, Inc.

SUBJECT EXCL7

COMMENT WMX supports the "Conditional Exclusion" management option for mercury lamps. This option would serve to encourage installation of energy-efficient lighting systems, reclamation of the lamps, and provide for alternative, environmentally safe management options. Limited landfill gas data, as well as groundwater monitoring data, demonstrate that mercury-containing lamps can be handled in an environmentally secure manner in a solid waste disposal facility that meets, at a minimum, the federal Resource Conservation and Recovery Act (RCRA) Subtitle D criteria for municipal solid waste landfill units.

RESPONSE

The Agency thanks the commenter for submitting comments in support of the Agency's proposed rule for the management of spent hazardous waste lamps. The Agency does not believe that its proposed conditional exclusion approach would sufficiently protect human health and the environment. In today's rule, EPA is adding hazardous waste lamps to the scope of the universal waste rule. EPA gave considerable weight to actions that would minimize mercury emissions to the environment while encouraging the collection and environmentally-sound management of spent lamps. Based upon commenter input and additional information collected and reviewed by the Agency since the publication of the proposed rule, EPA decided to adopt the proposed universal waste approach for controlling potential risks from the management of spent hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste regulations

under 40 CFR Part 273.

The universal waste rule was established to provide a streamlined, reduced set of management standards for certain hazardous waste that are widely generated by a diverse universe of generators. The universal waste rule provides a platform for regulating the collection and transportation of certain low risk hazardous waste in a manner that is protective, while reducing the burden to generators and collectors of these wastes, and at the same time ensuring that these wastes are ultimately destined for fully-regulated hazardous waste management facilities. Under the universal waste option being implemented today, spent hazardous waste lamps that exhibit a characteristic of hazardous waste must ultimately be managed at destination facilities that are fully regulated under full Subtitle C.

The Agency believes that management controls for hazardous waste lamps are necessary to minimize releases of mercury and other hazardous constituents to the environment during lamp accumulation and transport, to ensure safe handling of such lamps, and to keep hazardous waste lamps out of municipal waste facilities (both landfills and solid waste incinerators). Mercury is high on the Agency's priority list of toxic pollutants, along with other heavy metals such as cadmium and lead. These metals have been identified as constituents of some waste lamps.

As required by the Clean Air Act Amendments of 1990, the Agency issued the *Mercury Study Report to Congress*. The study estimates the quantity of mercury emissions to the air from a number of human activities, estimates the health and environmental impacts associated with these mercury emissions, and describes the technologies available to control mercury emissions from these sources. The report concludes that there is cause to seek further reductions in mercury releases and exposures to mercury.

Spent hazardous waste lamps are a significant source of mercury in the municipal solid waste stream, possibly accounting for as much as 3.8 percent of all mercury now going to municipal landfills. The Agency does not have data characterizing the behavior of mercury in different types of landfills over long time periods. 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. Further data and analysis are necessary to evaluate the potential for mercury to be released in landfill leachate as a landfill ages.

DCN FLEP-00228

COMMENTS STAPPA/ALAPCO

SUBJECT EXCL7

COMMENT There currently are no specific federal regulations or standards that are imposed on industrial solid waste landfills; consequently, there is the potential for many of these sites to produce uncontrolled leachate containing mercury.

RESPONSE

The Agency agrees with the commenter. The Agency does not believe that its proposed conditional exclusion approach would sufficiently protect human health and the environment. In today's rule, EPA is adding hazardous waste lamps to the scope of the universal waste rule. EPA gave considerable weight to actions that would minimize mercury emissions to the environment while encouraging the collection and environmentally-sound management of spent lamps. Based upon commenter input and additional information collected and reviewed by the Agency since the publication of the proposed rule, EPA decided to adopt the proposed universal waste approach for controlling potential risks from the management of spent hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273.

The universal waste rule was established to provide a streamlined, reduced set of management standards for certain hazardous waste that are widely generated by a diverse universe of generators. The universal waste rule provides a platform for regulating the collection and transportation of certain low risk hazardous waste in a manner that is protective, while reducing the burden to generators and collectors of these wastes, and at the same time ensuring that these wastes are ultimately destined for fully-regulated hazardous waste management facilities. Under the universal waste option being implemented today, spent hazardous waste lamps that exhibit a characteristic of hazardous waste must ultimately be managed at destination facilities that are fully regulated under full Subtitle C.

The Agency believes that management controls for hazardous waste lamps are necessary to minimize releases of mercury and other hazardous constituents to the environment during lamp accumulation and transport, to ensure safe handling of such lamps, and to keep hazardous waste lamps out of municipal waste facilities (both landfills and solid waste incinerators). Mercury is high on the Agency's priority list of toxic pollutants, along with other heavy metals such as cadmium and lead. These metals have been identified as constituents of some waste lamps.

As required by the Clean Air Act Amendments of 1990, the Agency issued the *Mercury Study Report to Congress*. The study estimates the quantity of mercury emissions to the air from a number of human activities, estimates the health and environmental impacts associated with these mercury emissions, and describes the technologies available to control mercury emissions from these sources. The report concludes that there is cause to seek further reductions in mercury releases and exposures to mercury.

Spent hazardous waste lamps are a significant source of mercury in the municipal solid waste stream, possibly accounting for as much as 3.8 percent of all mercury now going to municipal landfills. The Agency does not have data characterizing the behavior of mercury in different types of landfills over long time periods. 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. Further data and analysis are necessary to evaluate the potential for mercury to be

released in landfill leachate as a landfill ages.

DCN FLEP-00236

COMMENTS Conservation Lighting, Inc.

SUBJECT EXCL7

COMMENTS EPA studies have shown that mercury does not leach in significant amounts from municipal landfills, making Subtitle C landfilling unnecessary. In addition, in the area of air emissions, Subtitle C does not offer significant protection over that offered by Subtitle D, making the expense of disposal vastly disproportional to the environmental benefit achieved. In fact, US lamps contain less than .2% of total mercury in the environment and account for only 3.8% of total mercury in municipal solid waste. The quantity of mercury potentially released from landfilling of lamps (.04 to .31 tons) is dwarfed by the emission of mercury from combustion sources, estimated to be 286 tons per year. Clearly EPA resources are better spent addressing mercury emissions from combustion than in unnecessarily regulating a minor mercury source such as fluorescent lamps.

RESPONSE

The Agency thanks the commenter for submitting comments but does not agree with these comments. The Agency believes that management controls for hazardous waste lamps are necessary to minimize releases of mercury and other hazardous constituents to the environment during lamp accumulation and transport, to ensure safe handling of such lamps, and to keep hazardous waste lamps out of municipal waste facilities (both landfills and solid waste incinerators). Mercury is high on the Agency's priority list of toxic pollutants, along with other heavy metals such as cadmium and lead. These metals have been identified as constituents of some waste lamps.

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over the long term. The Agency has concluded that some management controls are essential for these wastes. Further data and analysis are necessary to evaluate the potential for mercury to be released in landfill leachate as a landfill ages.

Besides 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 incinerators that burn non-hazardous waste, and (2) boilers that burn hazardous waste.

DCN FLEP-00247

COMMENTS Total Lighting Service

SUBJECT EXCL7

COMMENT In the air of emissions, Subtitle C does not offer great protection over the offered Subtitle D, which makes disposal expense very disproportion[ate] to the environmental benefit achieved. The EPA resources are better spent addressing mercury emissions from combustion than in unnecessarily regulating an insignificant amount of mercury source such as fluorescent lamps.

RESPONSE

The Agency thanks the commenter for submitting comments but disagrees with these comments. The Agency believes that management controls for hazardous waste lamps are necessary to minimize releases of mercury and other hazardous constituents to the environment during lamp accumulation and transport, to ensure safe handling of such lamps, and to keep hazardous waste lamps out of municipal waste facilities (both landfills and solid waste incinerators). Mercury is high on the Agency's priority list of toxic pollutants, along with other heavy metals such as cadmium and lead. These metals have been identified as constituents of some 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 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 is less stringent than full Subtitle C management standards).

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.

The Agency believes that certain RCRA controls are needed to minimize the release of mercury from lamps into the environment. Although most mercury emissions are associated with combustion, all releases contribute to the mercury reservoirs in land, water and air. In addition, mercury has been shown to be transported in the atmosphere many miles from the source of its release. The deposition of atmospheric mercury into surface waters, its presence in runoff from soil, or the recycling of mercury from sediment into the water column can result in the accumulation of the metal in many animal species, particularly aquatic organisms. In December 1997, the EPA published a *Mercury Study Report to Congress* that examines many of the health effects resulting from mercury exposure.

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DCN FLEP-00280

COMMENTER Marathon Oil Company

SUBJECT EXCL7

COMMENT Marathon specifically supports the conditional exclusion as the best means of ensuring safe and cost-effective disposal of mercury-containing lamps. As discussed in the EPA's report "Management of Used Fluorescent Lamps: Preliminary Risk Assessment", the release rate for mercury in landfill leachates

is low, and there is little, if any, evidence of adverse impacts of mercury on groundwater resources. In fact, the data in the report raise the question of whether disposal would have to occur in a municipal solid waste landfill, as opposed to disposal in an industrial Subtitle D landfill. Both leaching and air emissions do not appear to justify the expense of disposal in only a Subtitle C landfill or a MSW landfill.

RESPONSE

In today's rule, the Agency is not finalizing the conditional exclusion option for the management of hazardous waste lamps. Based upon commenter input and additional information collected and reviewed by the Agency since the publication of the proposed rule, EPA decided to adopt the proposed universal waste approach for controlling potential risks from the management of spent hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., the universal waste rule is less stringent than full Subtitle C management standards). Studies conducted by the Agency indicate that a significant potential for mercury emissions and the release of other hazardous constituents from spent lamps occurs during storage and transport.

Adding spent hazardous waste lamps to 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. An added benefit of the universal waste approach is that the reduced cost of managing spent lamps may result in a greater quantity of lamps being collected and recycled and fewer hazardous waste lamps may be managed in the municipal solid waste stream. Therefore, the number of lamps going to municipal combustors may decrease and the potential for lamps to be crushed and/or broken in uncontrolled environments during storage and transport (e.g., dumpsters and garbage trucks) will decline.

Under the universal waste option being implemented today, spent hazardous waste lamps that exhibit a characteristic of hazardous waste must ultimately be managed at destination facilities that are fully regulated under full Subtitle C.

The Agency believes that management controls for hazardous waste lamps are necessary to minimize releases of mercury and other hazardous constituents to the environment during lamp accumulation and transport, to ensure safe handling of such lamps, and to keep hazardous waste lamps out of municipal waste facilities (both landfills and solid waste incinerators). Mercury is high on the Agency's priority list of toxic pollutants, along with other heavy metals such as cadmium and lead. These metals have been identified as constituents of some waste lamps.

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DCN FLEP-00293

COMMENTS American Airlines, Inc.

SUBJECT EXCL7

COMMENTS American also requests that EPA allow disposal of MCLs in any industrial waste landfills which are constructed to standards equal to or exceeding those for MSW landfills. To the extent EPA cannot now demonstrate that industrial waste landfills are as protective as MSW landfills, EPA should conduct additional research on this issue as soon as possible.

RESPONSE

In today's rule, the Agency is not finalizing the conditional exclusion option for the management of hazardous waste lamps. Based upon commenter input and additional information collected and reviewed by the Agency since the publication of the proposed rule, EPA decided to adopt the proposed universal waste approach for controlling potential risks from the management of spent hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., the universal waste rule is less stringent than full Subtitle C management standards). Studies conducted by the Agency indicate that a significant potential for mercury emissions and the release of other hazardous constituents from spent lamps occurs during storage and transport.

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DCN FLEP-00156

COMMENTS National Electrical Manufacturers Assn.

SUBJECT EXCL7

COMMENT G. SPECIFIC COMMENTS ON EPA PROPOSED EXCLUSION

In general, NEMA

believes that the conditional exclusion proposed by EPA does not completely address the potential, though limited, risks inherent in the management of large quantities of spent lamps under either a recycling or landfilling scenario. On the other hand, NEMA also believes that EPA may be unnecessarily restrictive in limiting the exclusion to lamps that are managed only in municipal landfills. Our specific comments on the EPA proposal

are listed below.

RESPONSE

In today's rule, the Agency is not finalizing the conditional exclusion option for the management of hazardous waste lamps. Based upon commenter input and additional information collected and reviewed by the Agency since the publication of the proposed rule, EPA decided to adopt the proposed universal waste approach for controlling potential risks from the management of spent hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., the universal waste rule is less stringent than full Subtitle C management standards). Studies conducted by the Agency indicate that a significant potential for mercury emissions and the release of other hazardous constituents from spent lamps occurs during storage and transport.

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DCN FLEP-00164

COMMENTS E.I. Du Pont De Nemours and Co., Inc.

SUBJECT EXCL7

COMMENT Any lined landfill whose design includes leachate collection should be allowed to accept spent lamps for disposal. DuPont supports the Agency's "Definition of Solid Waste Task Force" recommendation to allow incidental processing.

RESPONSE

In today's rule, the Agency is not finalizing the conditional exclusion option for the management of hazardous waste lamps. Based upon commenter input and additional information collected and reviewed by the Agency since the publication of the proposed rule, EPA decided to adopt the proposed universal waste approach for controlling potential risks from the management of spent hazardous waste lamps. Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. The universal waste rule provides a reduced, or streamlined set of requirements (i.e., the universal waste rule is less stringent than full Subtitle C management standards). Studies conducted by the Agency indicate that a significant potential for mercury emissions and the release of other hazardous constituents from spent lamps occurs during storage and transport.

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The Agency believes that management controls for hazardous waste lamps are necessary to

minimize releases of mercury and other hazardous constituents to the environment during lamp accumulation and transport, to ensure safe handling of such lamps, and to keep hazardous waste lamps out of municipal waste facilities (both landfills and solid waste incinerators). Mercury is high on the Agency's priority list of toxic pollutants, along with other heavy metals such as cadmium and lead. These metals have been identified as constituents of some waste lamps.

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The Agency appreciates the commenter's stated support of Definition of Solid Waste Task Force. However, today's rule does not modify the definition of solid waste, specifically the definition of ~~Reclamation~~.

DCN FLEP-00164

COMMENTS E.I. Du Pont De Nemours and Co., Inc.

SUBJECT EXCL7

COMMENT ANY LINED LANDFILL WHOSE DESIGN INCLUDES LEACHATE COLLECTION SHOULD BE ALLOWED TO ACCEPT SPENT LAMPS FOR DISPOSAL

The conditional exclusion would allow disposal of spent mercury-containing lamps in a municipal solid waste (MSW) landfill that is permitted by a State/Tribe with an EPA-approved MSW permitting program. This proposal is consistent with EPA data that shows groundwater from MSW landfills contains mercury at levels that do not pose a substantial threat to human health or the environment. The data the EPA has supporting this conclusion is from measurement of leachate from MSW landfills. 40 CFR 258 specifies design and operating criteria for MSW landfills. We conclude it is the sound engineering construction

standards and operating and monitoring requirements in addition to State permit oversight that "are the important considerations for the proposed exclusion. Therefore, even though specific data is not available on other landfills, it follows that all landfills meeting or exceeding the design, construction and operating criteria for MSW landfills would result in at least the same desired protection of human health and the environment. Several states, such as Virginia, and Pennsylvania, have promulgated regulations which require landfills accepting certain types of industrial wastes, such as would be the case for spent lamps, be designed with liners and leachate collection. For this reason, DuPont supports land disposal of spent mercury-containing lamps in any lined landfill whose design includes leachate collection. This likely includes many state permitted industrial landfills as well as all RCRA Subtitle C landfills.

RESPONSE

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DCN FLEP-00186

COMMENTER Building Owners or Managers Assn. Int.

SUBJECT EXCL7

COMMENT Conditions of Exclusion BOMA members believe it is reasonable to require as the conditions of this exclusion do that the generator dispose of lamps in a municipal solid waste landfill that is permitted by a State/Tribe with an EPA-approved municipal solid waste permitting program or sent to a State permitted, licensed, or registered mercury reclamation facility. At the same time, BOMA urges EPA to also allow lamps to be disposed of in non-municipal, solid waste, Subtitle D disposal facilities or municipal waste combustors should scientific evidence show that these options are sufficiently protective of the environment.

RESPONSE

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