

US EPA ARCHIVE DOCUMENT

DCN FLEP-00002

COMMENTS Ward Paper Company

SUBJECT GREEN

COMMENT Additionally, the proposal under consideration should be an encouragement to companies that currently do not participate in EPA's energy saving "Greenlights" program.

RESPONSE

The Agency appreciates the commenter's acknowledgment of EPA's energy-efficient lighting program, Green Lights. EPA's Green Lights Program encourages corporations to install energy-efficient lighting technologies. Corporations that make the commitment to participate in Green Lights profit by lowering electricity costs and improving lighting quality. Participation in energy-efficient lighting programs also reduces demand for electricity which, in turn, results in reduced emissions of carbon dioxide, sulfur dioxide, nitrogen oxides, and metals (such as mercury), which are associated with burning of fossil fuels for electricity generation.

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 Agency has found that the cost of participation in the Green lights program is largely independent of the regulatory options chosen by the EPA.

DCN FLEP-00007

COMMENTS Gates Corporation

SUBJECT GREEN

COMMENT By implementing this proposal, EPA will encourage companies to improve their energy efficiency. Through initiatives such as the Green Lights Program, EPA has promoted the sensible idea that more efficient lighting will reduce the need for electrical energy generation and thus improve the environment. EPA has also correctly identified an economic benefit to energy efficiency: energy efficiency will reduce facilities' operating costs and allow them to be more competitive. EPA will help make these benefits a reality by reducing the regulatory burden on the disposal of older, energy inefficient 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 most of the criteria established for designating a material as universal waste. The Agency has found that the cost of participation in the Green lights program is largely independent of the regulatory options chosen by the EPA.

DCN FLEP-00008



As a prominent part of EPA's overall goal of pollution prevention, the Green Lights program encourages corporate environmental leadership through demand side management, environmental stewardship, and emissions reduction. In addition, monetary savings from lower energy costs is obviously an incentive. This initiative, however, may be threatened if the lighting wastes generated through retrofitting are regulated under RCRA's Subtitle C, hazardous waste classification. Under hazardous waste regulation, disposal costs for these lighting wastes could easily cause any retrofitting to become unprofitable for our company.

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-00067

COMMENTS Georgia Power Company

SUBJECT GREEN

COMMENT The cost of managing lighting wastes as hazardous makes participation in relamping programs economically impractical, both for Georgia Power Company and any large customer which chooses to participate in these programs on their own. EPA itself acknowledges in the proposal that "the additional costs associated with managing, transporting, and disposing of lighting wastes as hazardous wastes can create an additional disincentive to join Green Lights and make the initial investment in energy-efficient light technologies." This assessment by EPA is correct. Because of these costs, utility companies may simply shift its demand side management dollars to

other efforts and forego Green Lights and similar demand side management programs altogether.

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-00072

COMMENTS Georgia Hall

SUBJECT GREEN

COMMENT 4. Businesses can save money by using the Green Lights program which keeps them informed on the energy savers.

RESPONSE

The Agency appreciates the commenter's acknowledgment of EPA's energy-efficient lighting program, Green Lights. EPA's Green Lights Program encourages corporations to install energy-efficient lighting technologies. Corporations that make the commitment to participate in Green Lights profit by lowering electricity costs and improving lighting quality. Participation in energy-efficient lighting programs also reduces demand for electricity which, in turn, results in reduced emissions of carbon dioxide, sulfur dioxide, nitrogen oxides, and metals (such as mercury), which are associated with burning of fossil fuels for electricity generation.

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 Agency has found that the cost of participation in the Green lights program is largely independent of the regulatory options chosen by the EPA.

DCN FLEP-00078

COMMENTS Tennessee Valley Authority

SUBJECT GREEN

COMMENT TVA is also a participant in EPA's "Green Lights" program and is working to improve lighting efficiency throughout our region.

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 most of the criteria established for designating a material as universal waste. The Agency has found that the cost of participation in the Green lights program is largely independent of the regulatory options chosen by the EPA.

DCN FLEP-00078

COMMENTS Tennessee Valley Authority

SUBJECT GREEN

COMMENT Impacts on Green Lights Program - In March 1993 TVA signed on as a federal partner in EPA's Green Lights program. A primary consideration in determining the rate of relamping at our

facilities is the payback period. Regulating lamps as hazardous waste adds significantly to the cost of relamping which increases the payback period and could delay or eliminate relamping at some facilities. This is particularly important at sites that would be moved into a higher hazardous waste generator status as a result of group relamping. We expect that regulation of lamps as hazardous waste is similarly impacting some of our larger electric customers, further delaying implementation an important energy conservation opportunity in our power service area.

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-00082

COMMENTS Square D Company

SUBJECT GREEN

COMMENT 1.The hazardous waste listing will inhibit energy saving programs like the Green Lights Program. (Square D plans to support the Green Lights Program).

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-00084

COMMENTS Jeff Carmichael

SUBJECT GREEN

COMMENT I would like to state that I support Environmental Protection Agency's (EPA) Green Lights initiative and energy conservation measures. I must commend EPA for developing the proposed rules on mercury-containing lamp management and taking the initiative to fairly regulate mercury-containing lamps.

Option 2: Universal Waste System Alternative for Lamps I also support the Universal Waste System Alternative for mercury-containing lamps. However, I favor Options 1 over Option 2, if EPA aggressively promotes recycling as suggested in my Option 1 comments. Option 1 provides the greatest relief to mercury-containing lamp generators, while encouraging companies to participate in EPA's Green Lights program.

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 adds hazardous waste lamps to the universal waste regulations. EPA believes that today's final rule provides adequate protection of human health and the environment while easing the regulatory burdens by offering a streamlined regulatory structure. Today's rule will not affect participation in the Green Lights program.

DCN FLEP-00086

COMMENTER Northeast Utilities Service Co.

SUBJECT GREEN

COMMENT I. Deregulation Will Bolster Green Lights Programs As a Green

Lights member, NUSCO recognizes the importance of encouraging its customers to switch to energy efficient lighting. Regulating lighting wastes as hazardous discourages customers from participating in such programs. On the other hand, EPA itself has recognized the overall environmental benefits of deregulation. "There is a clear net environmental benefit from energy efficient lighting, even when lamp disposal is taken into account. Mercury emissions are reduced through reduced power plant emissions when inefficient lighting is replaced with efficient lighting." Letter dated December 7, 1992, from Don Clay and Michael Shapiro of EPA, to Alabama Department of Environmental Services.

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-00088

COMMENTER S.C. Johnson and Son, Inc.

SUBJECT GREEN

COMMENT In this response package, SC Johnson would like to offer the following comments and supporting arguments. SC Johnson supports the Green Lights program and is taking significant actions to upgrade the efficiency of its lighting systems. As a result of these measures, SC Johnson is directly impacted by this proposal.

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 adds hazardous waste lamps to the universal waste regulations. EPA believes that today's final rule provides adequate protection of human health and the environment while easing the regulatory burdens by offering a streamlined regulatory structure. Today's rule will not affect participation in the Green Lights program.

DCN FLEP-00115

COMMENTER American Textile Manufacturers Institute

SUBJECT GREEN

COMMENT ATMI is also concerned that if the Agency requires the disposal of spent tubes as hazardous waste under full RCRA Subtitle C regulations, EPA will discourage participation in its own "Green Lights" program. Through its E3 program, ATMI encourages its member companies to join programs such as Green Lights and WasteWi\$. However, many textile manufacturers who oppose further regulation of fluorescent lamp disposal are partners in EPA's Green Lights Program. The goal of the Green Lights program is to encourage the widespread use of efficient lighting technologies to reduce air pollution from coal combustion. The program has been very successful and resulted in significant reduction in air emissions. EPA states that the Green Lights program will reduce mercury emissions by 9.7 Mg. by the year 2000 if fully implemented. Furthermore, EPA also states that the energy savings from initial and group relamping and resulting reduction in mercury emissions offsets the amount of mercury contained in the obsolete bulbs. On the one hand, EPA, along with various environmental organizations, has lobbied industry to become signatories of the Green Lights program. While the cost of relighting is initially very high, many textile manufacturers support the program and have absorbed the cost involved because they believe in the validity of such efforts. However, EPA's universal waste proposal would force manufacturers to spend significant amounts of money in disposal of existing light systems to comply with its new universal waste

rule.

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 adds hazardous waste lamps to the universal waste regulations. EPA believes that today's final rule provides adequate protection of human health and the environment while easing the regulatory burdens by offering a streamlined regulatory structure. Today's rule will not affect participation in the Green Lights program.

DCN FLEP-00124

COMMENTS Commonwealth Edison Company

SUBJECT GREEN

COMMENT On October 1, 1994, ComEd launched a demand side management (DSM) pilot program, the "Energy Efficient Lighting System Program (EELS)", to encourage its commercial and industrial customers to switch to energy-efficient lighting. ComEd will contribute a fixed cash rebate for retrofit from existing low-efficiency to new high-efficiency fluorescent lighting fixtures and/or conversions from incandescent fixtures to either modular compact fluorescent lamps and ballasts, high pressure sodium, or metal halide lamps and high intensity discharge ballasts. The rebate amounts are intended to cover approximately half of the cost of fixture installation, including materials and labor. Rollout of the program consists of a program information packet sent to customers as well as visits by company marketing personnel to major accounts.

RESPONSE

The Agency appreciates the commenter's direct contribution to the implementation of energy-efficient lighting programs.

DCN FLEP-00125

COMMENTS J.R. Simplot Company

SUBJECT GREEN

COMMENT 5) Regulation of mercury-containing lamps as hazardous waste discourages planned energy conservation programs which rely on replacing inefficient lighting systems with energy efficient fluorescent and high density discharge lamps which of necessity must contain some mercury. Because electric utilities, when burning fossil fuels, emit mercury at a rate of 0.0428 mg/kWh it is in the best interest of the public to encourage, not discourage, replacement of inefficient lighting systems. Furthermore, these lighting upgrades typically yield internal

rate of return of 20-30 percent and have a payback of 3-4 years.

These energy conservation measures reduce the emission of several other air pollutants including sulfur dioxide, nitrogen dioxide and greenhouse gases such as carbon dioxide. It is in the best interest of the public, aside from the environmental affects, to encourage such energy conservation measures.

#### RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-00130

COMMENTS U.S. Department of Energy

SUBJECT GREEN

COMMENT II. B. Energy Efficient Programs (59 FR 38289) EPA hopes that promulgation of the proposed rule will help to encourage the replacement of lighting systems that are not energy-efficient with new, energy efficient lighting systems. EPA's Green Lights program encourages the use of energy efficient lamps using initial and scheduled periodic relamping to achieve higher energy efficiency and reduce energy costs. The cost associated with managing, transporting and disposing of lighting wastes as hazardous waste creates a disincentive to joining Green Lights and to making the initial investment in energy efficient light technologies. DOE agrees that the costs associated with managing, transporting, and disposing of light wastes as hazardous waste creates a disincentive to joining Green Lights and making the initial investment in energy efficient light technologies. At large federal facilities such as Oak Ridge National Laboratory (ORNL), over 10,000 lamps are currently generated each year from routine maintenance. Currently these lamps are crushed in a 90-day accumulation area to reduce the volume of hazardous waste that must be stored and ultimately disposed. These lamp crushers have air permits that limit the number of lamps that can be crushed during a given dam period. The limits were established based on average lamp generation, not massive relamping that will occur under the Green Lights Program. Therefore, the additional waste lamp generation could

require a significant percentage of lamps to be stored intact at ORNL's permitted and interim status facilities, thereby increasing the cost of storage. EPA believes that lamp generation under the Green Lights Program, will be sporadic (every three to four years) rather than continuous. This belief is not valid where the generator has a large office complex or a process that requires well lit, close work. In these Areas, lamps are replaced as required. ORNL has more than 80,000 lamps on-site. The relamping program at ORNL will probably take up to six years to complete, given funding and staffing limitations. Some locations will use lighting 24 hours a day, 7 days a week; therefore, even the new longer-life lamps will only last about 1.5 years. Thus, ORNL expects to generate waste lamps continuously.

#### RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN SCSP-00137

COMMENTER Utility Solid Waste Activities Group

SUBJECT GREEN

COMMENT These programs, which are a prominent component of EPA's overall pollution prevention program, reduce the demand for electricity through the early replacement of existing lighting fixtures with more energy efficient fixtures. The net result is a valuable reduction in air emissions of mercury, carbon dioxide ("CO<sub>2</sub>"), oxides of nitrogen ("NO<sub>x</sub>"), and sulfur dioxide ("SO<sub>2</sub>") from electric utility power plants. Indeed, EPA has estimated that Green Lights and other relamping programs could reduce electricity bills by \$18.6 billion per year and reduce annual CO<sub>2</sub> emissions by 1.7 million tons (seven percent of the national total), and NO<sub>x</sub> emissions by 900,000 tons (four percent of the national total). [2] [Footnote 2: See EPA Green Lights A Bright Investment in the Environment, April 1992. In addition, California's Environmental Protection Agency recently reported that, a year after joining Green Lights, the State has reduced the state governments energy bill by approximately four percent.

See Environmental Policy Alert, January 6, 1993.]

RESPONSE

The Agency thanks the commenter for the comments and additional data submitted.

DCN FLEP-00146

COMMENTER Sierra Club/North Star Chapter

SUBJECT GREEN

COMMENT CONDITIONAL EXCLUSION WILL NOT NEGATIVELY  
IMPACT EPA'S GREEN LIGHTS PROGRAM OR OTHER LIGHTING  
EFFICIENCY PROGRAMS IN ANY SIGNIFICANT WAY

Even with a somewhat more expensive disposal requirement, there will still be plenty of incentive to install energy efficient-lighting. A General Electric brochure (GE Lighting: Lighting for Business) estimates that the installation of an energy efficient 4-foot bulb rather than a typical bulb will save almost \$10 per bulb over the expected life. The cost of electricity, and not the price of the bulb or the cost of its disposal is the principle cost of the lighting, and the source of significant savings. A slightly higher disposal or recycling cost will reduce the savings from energy efficient lighting by only a small amount.

RESPONSE

The Agency agrees with the commenter's assessment that the benefits of energy-saving programs such as Green Lights are not generally affected by the costs of spent lamp management. In addition, studies have shown that participation in energy-efficient lighting programs such as Green Lights reduces mercury (as well as other pollutant) air emissions from the burning of fossil fuels for electricity generation. The amount of air emissions associated with the generation of electricity will continue to decrease with additional decreases in demand for electricity resulting from energy savings programs.

DCN SCSP-00146

COMMENTER Advanced Environmental Recycling Corp.

SUBJECT GREEN

COMMENT Green Lights Program and Demand-Side Management - AERC fully supports the concept and applauds the USEPA on effective partnerships through the Green Lights program. Energy efficient lighting not only promotes effective demand-side management but also reduces environmental considerations at generating facilities. There is absolutely no reason why an effective Green Lights program cannot be combined with a program to properly handle the spent lighting devices which are replaced during this process. The USEPA must understand that the largest detriment to

this program is the overwhelming uncertainty on how to handle the waste lighting products. Generators clearly do not know which direction to take based on conflicting information presented by the USEPA, state agencies, service contractors, and so forth. A strong, effective policy which provides options to the generators will negate these conflicting reports. Although costs will be covered in detail in later sections, it must be stated here that the cost associated with the proper handling of spent lamps for a major relamping project equate to approximately 2 to 4 percent of the initial financial outlay to clean fixtures and replace ballasts and lamps with energy efficient products. This information is available from the many Green Lights partners who have selected an environmentally sound option for the disposal or recycling of their spent lamps and ballasts. Unfortunately, those who disagree with this concept are not applying real situations to the analytical process. The USEPA must heavily weigh the uncertainty factors in the decision-making process as being the greatest detriment to the success of the Green Lights program.

#### RESPONSE

The Agency appreciates the commenter's support for the Green Lights program and its assessment that the benefits of participation in an energy-saving program such as Green Lights are not generally affected by the cost of managing spent hazardous waste lamps.

DCN FLEP-00159

COMMENTS Motorola, Inc.

SUBJECT GREEN

COMMENT Motorola is a partner in EPA's Operation Green Lights Program and is committed to converting all U.S. manufacturing facilities to energy efficient lighting products and systems by the end of 1990. As a Green Lights Partner, Motorola benefits from the cost savings of reduced energy use, while reducing the discharge of pollutants into the atmosphere. Five facilities which converted in 1991 realized an average annual savings of 10-12 kw/h, power savings of 28.4%, pollution discharge reduction of 29%, and considerable improvement in the quality of light. As a manufacturer of energy efficient equipment, Motorola Lighting Incorporated (MLI) is a Green Lights ally. MLI is a manufacturer of electronic ballasts for fluorescent fixtures. MLI's electronic ballast removes the buzzing or humming noise and eliminates flickering which can contribute to eye strain. Electronic ballasts also reduce lighting consumption by as much

as 30%. Motorola is proud to be a part of the Green Lights program which could save American business approximately \$18 billion per year in energy costs while preventing millions of tons of pollution discharge from entering our atmosphere. Motorola agrees with EPA that the July 27, 1994 proposal will make it much easier for other companies to participate in the Green Lights Program by reducing the burden and uncertainty currently associated with the recycling and disposal of mercury-containing bulbs.

RESPONSE

The Agency appreciates the commenter's support of EPA's energy-efficient lighting program and the inclusion of data that demonstrate participation in Green Lights yields cost savings and reduces air emissions.

DCN FLEP-00168

COMMENTS Merck and Company, Inc.

SUBJECT GREEN

COMMENT EPA has stated that most relamping will occur in mass relampings. Merck's experience has found that the only time mass relampings occur is when there is major construction in a building and the lighting systems are simultaneously replaced. In our corporate headquarters, where the lamps were all installed at approximately the same time, relamping is done on an attrition basis as lights burn out. Energy-efficiency devices such as motion sensors and timers have been installed to extend bulb-life. Because of these devices, certain areas have lights on more frequently, therefore necessitating more frequent relamping. Places such as office facilities traditionally handle little to no hazardous waste and therefore do not all have the systems in place in which to manage mercury-containing lamps, much less the necessary storage facilities. EPA's version of mass-relamping appears to be wasteful because it requires relamping after a certain set period of time, regardless of the useful life of the bulb. Attrition relamping does not do this.

RESPONSE

The Agency notes that today's rule does not require businesses to perform relamping in a certain way (such as group relamping). Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. Many facilities that replace lamps on an attrition basis are likely to generate a relatively small number of hazardous waste lamps. These facilities will often be considered conditionally exempt small quantity generators or small handlers under the universal waste rule. These facilities are subject to greatly reduced requirements under Subtitle C.

DCN FLEP-00169

COMMENTS Advanced Environmental Recycling Corp.

SUBJECT GREEN

COMMENT GREEN LIGHTS: AERC/MTI fully supports the efforts of the Green Lights and Demand Side Management programs. The effective partnership between the USEPA and the private sector should be applauded, as energy efficient lighting promotes demand side management, but also reduces environmental considerations at electric generating facilities. Our research has exhibited the major problems in establishing a Green Lights program is directly related to improper communication and inconsistent direction concerning, the handling of waste lamps. Generators clearly do not know which decision to make based on conflicting information from the USEPA, state agencies, contractors, and so forth. A strong, effective policy endorsing the Universal Waste concept will provide options to generators, resulting in the elimination of conflicting information. Although cost will be covered in detail in later sections, it must be stated that the cost of associated spent lamps for a major relamping project equate to approximately 2 to 4 percent of the initial financial outlay to clean fixtures and replace ballasts and lamps with energy efficient products. This information is available from the many Green Light partners that have selected recycling for their spent lamps and ballasts. Unfortunately, those who disagree with this concept are not applying real situations to the analytical and comparative process. The USEPA must heavily weigh the uncertain factors in this process of being the greatest detriment to the success of the program. As this inconsistency can greatly exhibit the minimum impact of cost. AERC/MTI and others in the recycling business fully comprehend the cost considerations associated with recycling and its impact on the Green Lights program. Facilities running efficiently and at capacity will enable costs to be reduced in the process. Sound direction from the USEPA for including lamps in the Universal Waste option will encourage competition between the recyclers which will again result in lower costs. Additionally, participants in recycling have stated that recycling costs are insignificant in relationship to larger, long-term liability issues.

RESPONSE

The Agency appreciates the commenter's support for the Green Lights program and its assessment that the benefits of participation in an energy-saving program such as Green Lights are not generally affected by the cost of managing spent hazardous waste lamps.

DCN FLEP-00170

COMMENTS National Assn. of Energy Services Comp.

SUBJECT GREEN

COMMENTS Summary of Comments NAESCO is pleased that the Environmental Protection Agency (EPA) is focused on providing clear and appropriate federal regulation with respect to spent lamp disposal. Such regulation will help to provide certainty to participants in affected markets, while addressing the environmental concerns that have arisen from the disposal of spent fluorescent lamps. NAESCO also very strongly supports the EPA's concern that the regulation of spent fluorescent lamps be undertaken in a manner that is not unduly burdensome to energy conservation initiatives. As the EPA has pointed out, one important source of mercury waste is coal-fired power generation, which is most readily addressed-at this time through the wide-spread implementation of energy conservation measures. By promoting supply and demand side energy efficiency which reduce significantly the level of power generation, the EPA can most efficiently meet its objective of reducing mercury emissions.

RESPONSE

The Agency appreciates the commenter's support of energy conservation efforts. Corporations that commit to efforts such as the Green Lights program profit by lower 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 electric power plants.

DCN FLEP-00172

COMMENTS Natural Gas Pipeline Company of America

SUBJECT GREEN

COMMENTS GREEN LIGHTS PROGRAM With efforts underway within USEPA to promote the Green Lights Program for replacement of existing lighting systems with newer more efficient lighting, the selected management option will have a significant bearing on industry's movement towards this voluntary program. The disposal option selection process must consider the risk to public health and the environment as well as the cost to industry and the relative impact on the Green Lights Program of increased

disposal costs. The evaluation of overall risk to the public health and the environment must also consider the benefits of a voluntary program such as Green Lights which not only conserves energy but also reduces public risk through reduced carbon monoxide, sulfur dioxide and nitrogen oxide emissions from power plants.

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-00174

COMMENTER Illuminating Engineering Soc. of N. Am.

SUBJECT GREEN

COMMENT More appropriate RCRA

controls will further encourage participation in EPA's Green Lights and other lighting upgrade programs, indeed the basic economics involved with most light source decisions, which will result in reduced requirements for electric power generation. One of the main benefits of reducing power generation is reducing mercury pollution.

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN SCSP-00175

COMMENTER Hazardous Waste Treatment Council

SUBJECT GREEN

COMMENT Furthermore, EPA through its Green Lights program, has been encouraging businesses and other entities to replace their fluorescent lights with more energy-efficient lighting systems. As a result of "relamping," EPA hopes to decrease electricity usage, which, in turn, will decrease pollution generated from

the production of electricity. Because fluorescent bulbs often test hazardous under the TC test, the Green Lights program is likely to cause significant quantities of hazardous waste light bulbs to be generated. EPA has more recently expressed concern that compliance with RCRA Subtitle C "may make fluorescent lamp management so expensive that participation in the Green Lights program is hindered." Memorandum from Sylvia K. Lowrance to Richard J. Guimond on OSW Weekly Activities for Week of April 19-23, 1993, at p.2 (attached as Exhibit D). [See hard copy of Comment SCSP-00175 for Attachments.]

#### RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-00180

COMMENTS Food Marketing Institute

SUBJECT GREEN

COMMENT The supermarket industry is keenly interested in efficient lighting systems because energy is a grocery store's second largest cost of doing business after labor costs. There are approximately 32,000 conventional supermarkets in the United States and each store contains lighting fixtures using from 700 to 1900 fluorescent tubes. Superstores use even more. A general practice in our industry is to relamp a store every two to three years. Relamping is generally performed by a contractor that also arranges for lamp disposal. Recycling is used as an option to disposal in landfills. Outside of the complete relamping of a store, the incidental replacement of spent tubes keeps an individual supermarket below the Small Quantity Generator threshold. When relamping, the large quantities generated indicate the need for the Toxicity Characteristic Leaching Procedure. This costly regulatory step hampers relamping programs and impedes the upgrading of lighting systems to make them more energy efficient

#### RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal

impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-00179

COMMENTER Environmental Defense Fund

SUBJECT GREEN

COMMENT EPA is currently encouraging conversion from incandescent to fluorescent lighting to reduce overall air pollution into the environment through EPA's "Green Lights" program. Because mercury is emitted during electric power generation from fossil fuels, reducing electricity consumption for lighting through use of energy efficient fluorescent lamps reduces overall anthropogenic mercury releases to the environment. Likewise, reuse of reclaimed mercury from spent lamps reduces the overall use of virgin mercury and the quantity of mercury sent to disposal facilities. In general, we support EPA's "Green Lights" initiative to reduce air pollution, especially greenhouse gas generation.

RESPONSE

The Agency appreciates the commenter's support of EPA's energy-efficient lighting program and of lamps recycling. EPA's Green Lights Program encourages corporations to install energy-efficient lighting technologies. Corporations that make the commitment to Green Lights profit by lowering 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 emissions of metals such as mercury at electric power plants.

DCN FLEP-00180

COMMENTER Food Marketing Institute

SUBJECT GREEN

COMMENT Regulatory flexibility is an important factor that will help encourage efficient and safe relamping and upgrading programs. For example, in New Jersey, a supermarket operator and other businesses are organizing an innovative lamp replacement coalition whereby participating businesses take turns each month serving as the collection "host" for spent fluorescent lamps.

RESPONSE

The Agency appreciates the commenter's support of energy-efficient lighting programs and thanks the commenter for the information on the lamp replacement coalition.

DCN FLEP-00184

COMMENTER Assn. of International Auto Manuf., Inc.

SUBJECT GREEN

COMMENT Both options proposed by EPA would also discourage the replacement of these lamps with energy efficient lighting systems. Furthermore, they would negate the benefits of various voluntary programs which EPA has been actively promoting in an effort to conserve energy. As mentioned in the proposal, management standards would discourage the benefits of the Green Lights program which is intended to reduce carbon dioxide and sulfur oxide emissions from power plants by reducing the amount of coal combustion. By making the disposal of lamps more costly, the success of these programs is less likely.

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-00188

COMMENTER Westinghouse Electric Corporation

SUBJECT GREEN

COMMENT SPECIFIC COMMENTS Section II.B - Energy Efficient Lighting Programs (page 38290) This section includes a discussion on initial lighting upgrades and "group relamping". The assumption mentioned here and throughout the proposed rule is that everyone will adopt "group relamping" rather than changing out lamps as they burn out. This assumption may be not appropriate for all buildings or businesses. The EPA should not base their proposed rule solely on this assumption.

RESPONSE

The Agency notes that today's rule does not require businesses to perform relamping in a certain way (such as group relamping). Today's final rule adds hazardous waste lamps to the universal waste regulations under 40 CFR Part 273. Many facilities that replace lamps on an attrition basis are likely to generate a relatively small number of hazardous waste lamps. These facilities will often be considered conditionally exempt small quantity generators or small handlers under the universal waste rule. These facilities are subject to greatly reduced requirements under Subtitle C.

DCN FLEP-00190

COMMENTS    Browning-Ferris Industries

SUBJECT    GREEN

COMMENT    2.0 Benefits of the Green Lights Program Are significant: 2.1

Reductions In Conventional Air Pollutants: The environmental benefits of a fully implemented Green Lights Program are very significant and should, as a matter of sound environmental policy, be factored into any changes in regulation of mercury-containing lamps under the Resource Conservation and Recovery Act (RCRA). For a fully implemented Green Lights program, the Agency has estimated very substantial reductions in the total emissions of conventional air pollutants; four percent for carbon monoxide, seven percent for sulfur dioxide and 4 percent for nitrogen oxide.

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN        FLEP-00190

COMMENTS    Browning-Ferris Industries

SUBJECT    GREEN

COMMENT    2.3 Net Reductions in Solid Waste and Waste Waters: BFI believes

that the Agency should also consider the benefits of the Green Lights Program in so far as it may impact the over all generation of solid wastes. The mining, processing and combustion of fossil fuels generates large volumes of solid waste and waste waters. Therefore, any reduction in electrical power demand due to the Green Lights program would have a proportionate reduction of these waste streams.

RESPONSE

The Agency thanks the commenter for its support of the Green Lights program. Studies have shown that participation in energy-efficient lighting programs such as Green Lights reduces mercury (as well as other pollutant) air emissions from the burning of fossil fuels for electricity generation. The amount of air emissions associated with the generation of electricity will continue to decrease with continues declines in the demand for electricity due to participation in energy-efficiency programs.

DCN        FLEP-00191

COMMENTS Utility Solid Waste Activities Group

SUBJECT GREEN

COMMENT More generally, however, implicit in both the MSWLF option and universal waste options is the recognition that the regulation of mercury- containing lamps under the Subtitle C system is not only unnecessary, but environmentally counterproductive because it inhibits full participation in energy-efficient relamping programs such as Green Lights. As EPA correctly recognizes, "there is a clear net environmental benefit from energy efficient lighting, even when lamp disposal is taken into account." The important environmental benefits available under these programs will continue to be needlessly forfeited until EPA acts to remove mercury- containing lamps from the traditional Subtitle C program. Therefore, it is critical that EPA remain vigilant in pursuing promulgation of a final lamp management rule and not let this important initiative slip from the Agency's agenda.

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project's internal rate of return (IRR). At a \$.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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-00191

COMMENTS Utility Solid Waste Activities Group

SUBJECT GREEN

COMMENT A. Removing Mercury-Containing Lamps From Hazardous Waste Subtitle C Regulation Is Critical To the Success of Green Lights and Other Energy-Efficient Lighting Programs As one of the key stakeholders in the implementation of energy-efficient relamping programs, USWAG strongly agrees with EPA's position that requiring the disposal of lamp wastes as hazardous wastes, under full Subtitle C regulations, may discourage participation in energy efficient lighting programs." 59 Fed. Reg. at 38289. Over the course of the last two years a growing number of individual electric utilities have either put off indefinitely their decision to join Green Lights or have greatly scaled back their participation in Green Lights precisely because of the economic burdens and operating problems of managing the replaced

bulbs under RCRA's Subtitle C regime. As the Agency itself concedes, the additional costs associated with managing, transporting, and disposing of lighting wastes as hazardous wastes can create an additional disincentive to join Green Lights and make the initial investment in energy-efficient light technologies." Id. at 38290.

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-00191

COMMENTER Utility Solid Waste Activities Group

SUBJECT GREEN

COMMENT EPA also points out that, if energy-efficient lighting were used wherever it is profitable, the nation's demand for electricity could be cut by more than 10 percent. Id. This would result "in reductions of estimated annual carbon dioxide emissions of 202 million metric tons (4 percent of the national total), reductions of annual sulfur dioxide emissions of 1.3 million metric tons (7 percent of the national total), and reductions of annual nitrogen oxide emissions of 600,000 metric tons (4 percent of the national total)." Id.

RESPONSE

Studies have shown that participation in energy-efficient lighting programs such as Green Lights reduces mercury (as well as other pollutant) air emissions from the burning of fossil fuels for electricity generation. The amount of air emissions associated with the generation of electricity will continue to decrease with continued declines in the demand for electricity due to participation in energy-efficiency programs.

DCN FLEP-00191

COMMENTER Utility Solid Waste Activities Group

SUBJECT GREEN

COMMENT The bottom line is that the cost impact of managing lighting wastes under the Subtitle C program is significant and is causing wide-spread reluctance by electric utilities and other potential Green Lights participants from undertaking energy-efficient relamping programs. The result is the needless

forfeiture of significant reductions in mercury and related emissions that can be achieved by full-scale participation in Green Lights and other energy-efficient lighting programs. The message is simple: full participation in relamping programs - and the important environmental benefits that can be derived from such programs - will not be realized until EPA removes mercury-containing lamps from hazardous waste regulation. This message is being echoed by individual electric utilities across the country who believe that the cost of managing lighting wastes under RCRA's Subtitle C system makes participation in the Green Lights program (and related programs) "economically impractical" and results in the "continuing reluctance by many to join this program at the expense of the environment." [5] [Footnote 5: See letter from Florida Power & Light to EPA (April 6, 1993); letter from Tennessee Valley Authority to EPA (April 15, 1993) (Attachment C).] The following excerpts from individual USWAG member comments - which represent some of the key stakeholders across the country in ensuring the successful implementation of energy-efficient relamping programs - underscore this point (the full text of these letters are included in Attachment C). [See hard copy of Comment FLEP-00191 for Attachments]. 1. Letter from Wisconsin Power & Light Co. to EPA (March 24, 1993). "Wisconsin Power & Light Company (WP&L) continues to be a supporter and member of the EPA's Green Lights program.... Unfortunately, I am writing to advise you of a major problem our utility as well as others are having in implementing the Green Lights program -- that problem is lighting waste disposal. As I am sure you are aware, a large percentage of lighting waste is being characterized as hazardous waste under RCRA. Because of this, the costs and liability of removing and disposing of old lights exceeds the electrical savings from such a program. Not only is this causing a dilemma for the utility industry, but it is also putting our customer conservation programs at risk. This matter has been discussed by our senior management and our decision is to not move forward with implementation of the Green Lights program within our company until the EPA addresses the disposal issue and provides some guidance and relief regarding this disposal dilemma." 2. Letter from Wisconsin Public Service Corporation to EPA (March 25, 1993) "This week Wisconsin Public Service Corporation (WPSC) received word from another of our large customers who is normally very conservation minded. This customer informed us that they were

not upgrading their large office complex with energy efficient lamps because of the recent Wisconsin Department of Natural Resources (WDNR) policy, which makes all lighting wastes subject at the hazardous waste rules. The WDNR has stated that their policy will be updated if the EPA grants an exemption for the lighting wastes. The costs of managing lighting wastes, as well as the additional paper work required to manage these wastes as hazardous wastes, is causing companies to forfeit important lighting upgrades that would result in overall air emission savings.... Our conservation programs, and the EPA's Green lights program, will not achieve their full potential unless EPA excludes lighting wastes which are generated by participating in these voluntary energy savings programs." 3. Letter from Virginia Power to EPA (September 7, 1993) "[Regulatory] relief is important because it should significantly enhance the success of Green Lights and other lighting efficiency improvement programs. Having to treat the waste generated by lighting efficiency upgrades as hazardous is an unnecessary burden and disincentive to implementing lighting efficiency improvements. As a result, many businesses and organizations are very reluctant to participate." 4. Letter from The Los Angeles Department of Water and Power (April 23, 1993). "Regulating lighting waste as hazardous may make voluntary demand-side management (DSM) programs, such as Green Lights, economically impractical. LADWP applauds EPA for its commitment to energy efficiency and the environment as it relates to the Green Lights Program. However, regulating lighting wastes as hazardous may discourage new participation and curtail the progress of voluntary participants already in place." 5. Letter from Florida Power & Light to EPA (April 6, 1993) "The regulation of lighting wastes under the hazardous waste program greatly complicates participation by an electric utility and its customers in any of the lighting efficiency programs which might be approved by a state utility regulatory body. Although such programs may be a key element of a utility's demand-side management activities, the possibility that the lighting waste created during replacement to more energy-efficient types would have to [be] handled as hazardous waste makes the implementation of these programs problematic. This is because the cost of managing this lighting waste as hazardous waste makes these programs economically impractical, both for the electric utility and any large customer which chooses to participate in them on

its own.... The exclusion under consideration will remove a major impediment to any of the lighting efficiency programs which a utility or its customers might undertake. FL urges its quick adoption in order to avoid serious disruption to these programs' progress." 6. Letter from Union Electric to EPA (October 27, 1994). "The cost of managing spent lamps as hazardous could also make participation in relamping programs economically impractical and will impede participation in Green Lights and other energy efficient relamping programs that are being promoted by the Administration under the Climate Challenge Program.... The MSWLF option will remove this barrier to participating in energy efficient relamping programs." 7. Letter from Commonwealth Edison to EPA (November 1994). "Our concern is that our customers, especially large office building owners, will be discouraged from participating in ComEd's relamping initiative once they realize the regulatory burden they may assume.... those who have never generated hazardous waste may be unsure of the costs associated with regulatory compliance, and may opt out of the program because of increased legal fees or administrative costs. Small businesses may also have a psychological aversion to dealing with unfamiliar regulations and apparently unbounded liability." 8. Letter from Delmarva Power to EPA (April 5, 1993). "The Green Lights Program' is an excellent program that is helping to save energy and producing great environmental benefits through emission reductions. However, subjecting mercury containing lighting wastes to hazardous waste regulations could make this and other high efficiency lighting programs economically impractical." 9. Letter from American Electric Power to Office of Management and Budget (April 15, 1994) "proposed upgrades are not justified because they fail the feasibility test as a direct result of the incrementally higher cost of treating the lighting waste as a hazardous material. If this is true for other companies, the goals of the Green Lights program in achieving cost-effective upgrades wherever possible will be thwarted." 10. Comments submitted by Allegheny Power System to EPA (October 10, 1994). "Because of these substantial additional costs [associated with managing, transporting, and disposing of lighting wastes as hazardous wastes].... APS may have no choice but to invest their demand-side management dollars in other programs and forego Green Lights." The above excerpts and the additional letters contained in Attachment C make clear that subjecting

mercury-containing bulbs to hazardous waste regulation has significantly retarded the implementation of energy-efficient relamping programs across the country and has unnecessarily resulted in the forfeiture of potentially significant pollution prevention benefits. Even for those companies that have chosen to participate in Green Lights, subjecting the bulbs to Subtitle C controls has resulted in significant losses in potential emissions reductions otherwise achievable from their full participation in the Green Lights program. For example, Pacific Gas & Electric ("PG&E"), a gas-fired electric utility, estimates that 35 percent fewer of its sites are eligible for participation in the Green Lights program due to the costs of managing bulbs from such sites under the hazardous waste regime. See PG&E "Green Lights Programs Disposal Cost Breakdown" (Attachment D). [See hard copy of Comment FLEP-00191 for Attachments]. [6] [Footnote 6: EPA's Green Lights program has established a "Cost Effectiveness Analysis" that is used to determine whether it is economically feasible for a particular facility to participate in Green Lights Based on this "Cost Effectiveness" equation, if mercury- containing lighting wastes are regulated as hazardous wastes, a significant percentage of facilities will not even qualify to participate in Green Lights (e.g., 35 percent in the case of PG&E) (Attachment E).] The forfeiture of pollution prevention benefits from this isolated example are significant. The public is foregoing annual emissions savings from this single company of approximately 0.5 tons of SO<sub>2</sub>, five tons of NO<sub>x</sub>, and 140 tons of CO<sub>2</sub>. The amount of forfeitures in emissions savings from coal-fired electric utilities are even more dramatic. One coal-fired electric utility estimates that a comparable 35 percent reduction in units qualifying for Green Lights would results in forfeiting annual emissions savings of 8.7 tons of SO<sub>2</sub>, 3.7 tons of NO<sub>x</sub>, and 1,013 tons of CO<sub>2</sub>. Attachment D (setting forth the significant differences in annual emissions reductions at a coal-fired electric utility under a nonhazardous waste program for lighting wastes versus the limited emission reductions achievable under a hazardous waste program for lighting wastes). [See hard copy of Comment FLEP-00191 for Attachments]. Obviously, these losses in emission reductions are even more significant when the cumulative emissions savings forfeited by the entire electric utility industry are taken into account.

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-00191

COMMENTS Utility Solid Waste Activities Group

SUBJECT GREEN

COMMENT The record also demonstrates, however, that full participation in Green Lights and other DSM programs offers one of the most effective measures available for reducing these emissions because "energy efficient lighting consumes less electricity, reducing the generation of pollution from power plants." 59 Fed. Reg. at 38289. EPA estimates that full implementation of the Green Lights program will result in a reduction of mercury emissions from fossil fuel combustion by 9.7 Mg - almost 8 percent - by the year 2000. Id. [10] [Footnote 10: USWAG notes that the amount of mercury emissions attributable to electric utility fossil fuel combustion, and the degree of any associated health effects, are still being evaluated. EPRI and other interested groups are scheduled to issue a report in the near future analyzing these issues in more detail.]

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-00202

COMMENTS Union Camp Corporation

SUBJECT GREEN

COMMENT EXPERIENCE IN VOLUNTARY ENERGY CONSERVATION PROGRAM "GREEN LIGHTS" PROVIDES BASIS FOR COMMENTS  
Union Camp is a charter partner in the 1991 EPA voluntary energy conservation program called "Green Lights." As EPA is well aware, this program is designed to encourage pollution prevention through installation

of energy efficient lighting technologies which consume much less energy. U.C. supports this method of pollution reduction and does not want to see any loss in momentum in the program. EPA states that energy efficient lighting technologies can reduce lighting electricity demand by over 50 percent enabling power plants to generate less electricity and burn less fuel. As stated in the proposal, a goal of Green Lights program is to encourage the widespread use of efficient lighting technologies with the subsequent result of reducing air pollution from combustion of coal and other fuels. U.C. applauds EPA for this program's practical, sensible and realistic goals. In terms of the big picture there are net environmental and other benefits including safety, economic and social from the Green Lights program. U.C. has read of success testimonies throughout the country, and observed them within U.C.. Based on EPA's information, electric utilities emit on a national average mercury at a rate of 0.0428 mg/kWh sold. EPA estimates full implementation of Green Lights is estimated to reduce mercury emission by 9.7 Mg by the year 2000. Further, the energy-efficient fluorescent lamps used by Green Lights participants and other energy conservation programs contain less mercury than energy-inefficient fluorescent lamps. Energy-efficient lighting technologies provide excellent investment opportunities which tend to propagate investment into more energy efficient product. EPA's proposal reported typical lighting upgrades yielding internal rates of return of 20-30 percent and project paybacks of 3-4 years. These returns have been realized in U.C. also. Although these returns sound very appealing further regulation of lamps may shift the balance to discourage lighting upgrades with a subsequent lost pollution prevention opportunity. As EPA is aware, the criteria for upgrading lighting is based on meeting a profitability criteria of the prime rate plus 6 percent. With minimal interest rates on an upward trend, meeting the profitability criteria will be more difficult and make upgrade projects harder to justify.

#### RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a

100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-00203

COMMENTS American Gas Association

SUBJECT GREEN

COMMENTS Many utilities are involved in demand side management programs that replace large numbers of existing lighting systems with energy efficient systems. These programs coincide with EPA's Green Lights initiative. As a result of this effort, large quantities of high wattage mercury-containing fluorescent bulbs are being exchanged for more energy efficient replacements. Consequently, many office-type operations that would normally be conditionally exempt small-quantity generators, suddenly become fully regulated under RCRA. The incentive to participate in the long term benefits of the Green Lights program becomes less attractive when the full effect of RCRA disposal requirements is felt. Even without Green Lights participation, the spent lamps will still find their way to the municipal landfill as part of the daily lamp/burnout/replacement of normal building maintenance.

#### RESPONSE

The Agency received several comments regarding potential changes in generator status during a given month due to the generator's participation in an energy-efficient relamping program. This issue is typically associated with facilities that are conditionally-exempt small quantity generators (CESQGs) under Subtitle C and are concerned that a relamping project may increase the quantity of hazardous waste generated in a month to over 100 kg, which would otherwise change the facility status to small quantity generator. 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)).

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)) and therefore, a relamping project would not change the generator status under Subtitle C regulations. If a generator manages hazardous waste lamps under the universal waste system and does not generate any other hazardous waste, that generator is not subject to other Subtitle C hazardous waste management regulations, such as the hazardous waste generator regulations in Part 262. Under the universal waste rule, a handlers of universal waste changes its status from Small Quantity Handler of Universal Waste (SQHUW) to Large Quantity Handler of Universal Wastes (LQHUW) if it accumulates more than 5,000 kg of universal waste on-site, at any time (which represents approximately 15,000 to 17,500 lamps).

DCN FLEP-00204

COMMENTER American Lamp Recycling, Ltd.

SUBJECT GREEN

COMMENT We believe that the Agency's Green Lights program is a shining example of foresight, logic and the successful attainment of environmental goals through development of a positive Agency-industry partnership. The Agency should be commended for such a positive, well constructed program. The Green Lights goal of pollution reduction through energy efficiency is complemented by proper management of PCB ballasts and mercury- containing lamps, and we believe the Agency's disincentive argument is a reversal of the Agency's previous position that "The overall impact of lamp disposal on the profitability of typical Green Lights lighting upgrade projects is minimal", as published in the Agency document "Lighting Waste Disposal", January, 1994.

RESPONSE

The Agency appreciates the commenter's support of the Green Lights energy-efficient lighting program. 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.

DCN FLEP-00205

COMMENTER Pacific Gas and Electric Company

SUBJECT GREEN

COMMENT One very important DSM program is "Green Lights", an energy saving program that involves relamping of our commercial and industrial customers' facilities as well as our own facilities to conserve energy through the use of energy efficient lighting materials. This conservation process helps reduce the amount of energy required which in turn reduces the amount of potential airborne pollutants, such as carbon dioxide and oxides of nitrogen, emitted from power plants. For PG&E to successfully provide efficient DSM programs there must be an economic incentive both for the customer and PG&E. EPA has represented that "there is a clear net environmental benefit from energy efficient lighting, even when lamp disposal is taken into account".

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-00209

COMMENTS Lincoln Electric System

SUBJECT GREEN

COMMENTS Energy efficient lighting and other demand side management programs provide significant benefits for our customer-owners through lower energy bills, lower energy consumption and the related reduction in power plant emissions, and the ability of the electric utility to delay generation additions. A typical example of the benefits of energy efficient lighting conversions for one of our customers involved the changeout of 2,090 four tube F40 fixtures. The customer was able to replace the older inefficient fixtures with 1,169 two tube T8 fixtures and meet their lighting needs. This project resulted in an electrical demand reduction of 40 percent and an energy use reduction of 30 percent. The simple payback for the customer was 4.5 years . If the replaced fluorescent tubes had been considered a "hazardous waste," the project may well have been infeasible.

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-00210

COMMENTS Tampa Electric Company

SUBJECT GREEN

COMMENTS Our experience has been that a number of customers who initially expressed interest in relamping their facilities with energy efficient lighting lost interest in such projects when they became aware of the need to manage the resultant lighting waste as hazardous waste. Two of our large customers were approached by the City of Tampa and have agreed to relamp their facilities, with the understanding that the City of Tampa will take responsibility for management of the lighting waste generated. The two clients later advised Tampa Electric that

their decision to move ahead with the relamping projects was due to the City's offer to manage the resultant lighting waste. Previously, they had both decided to defer their relamping plans indefinitely, due to the high hazardous waste disposal costs they would incur if they did relamp their facilities.

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-00213

COMMENTER Consolidated Edison Company (Con Edison)

SUBJECT GREEN

COMMENT Our Company has joined EPA's Green Lights program and has developed plans for various demand side management ("DSM") programs. Most of these programs involve management and disposal of lighting waste. The implementation of and progress in these environmentally beneficial programs have been severely impeded by regulatory and economic burdens because the management and disposal of mercury-containing lamps are currently subject to the stringent RCRA Subtitle C regulations.

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-00229

COMMENTER Global Recycling Technologies, Inc.

SUBJECT GREEN

COMMENT Since EPA implemented Green Lights in 1991, material prices have fallen 250%, labor 10%, and PCB ballast recycling 50%; resulting, in a net decrease of 38% including the cost of adding lamp recycling. Furthermore, the Green Lights Program has been extremely successful, having completed over 8200 upgrade

projects over 825 million square feet of buildings [17].  
[Attachment 17: Attachment 4: Green Lights Program Snapshot;  
Projects In The Upgrade Pipeline, July 94.] [See hard copy of  
Comment FLEP-00229 for Attachments]

RESPONSE

The Agency appreciates the commenter's support of EPA's Green Lights energy-efficient lighting program.

DCN FLEP-00235

COMMENTS N'novated Concept Systems

SUBJECT GREEN

COMMENT NCS believes EMISSIONS are what FIRST need reduction, through the Green Lights program and through energy-related incentives. We would encourage a more complete disposal policy, one extensively and carefully researched and tested, while the existing energy-saving encouragements are in place. Only after the bugs are worked out and every state and municipality is aware of and prepared for new waste disposal policy should such sweeping changes be introduced-- and then, they must be EQUALLY enforced!

RESPONSE

The Agency appreciates the commenter's support of the Green Lights energy-efficient lighting program. 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. EPA notes that many states have either added spent lamps to their universal waste program or are planning to do so in the future.

DCN FLEP-00242

COMMENTS Murphy Electric Maintenance Company

SUBJECT GREEN

COMMENT The Green Lights Program has provided the impetus for companies to use energy efficient lighting. Yet, the current designation of spent mercury containing lamps as hazardous waste is having a negative impact on Murphy Electric ability to provide quality energy efficient lighting to our customers. We have received different interpretations and enforcement procedures on the current rules at various times.

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options. EPA notes that many states have either added spent lamps to their universal waste program or are planning to do so in the future.

DCN FLEP-00243

COMMENTER Recycling Advocates of Middle Tennessee

SUBJECT GREEN

COMMENT Regarding the estimated 9.7 Mg reduction of Hg emissions from coal-burning plants as a result of the "Green Lights" program, is this an annual saving? Even if this is the case, 9.7 Mg is much smaller than the 20 Mg estimated to come from Hg-containing lamps. The analysis failed to estimate an increase or decrease in the 20 Mg figure as a result of the "Green Lights" program.

RESPONSE

The Agency's estimated reduction in mercury emissions due to continued participation in energy efficiency lighting programs that was provided in the background document for the proposed rule is 9.7 Mg by the year 2000. EPA's recently updated analysis of potential mercury emissions from spent lamp management options includes an estimate of mercury emissions avoided due to participation in energy efficient light programs of 284.5 kg by the year 2000, and 588.2 kg by the year 2007. Studies have shown that participation in energy-efficient lighting programs such as Green Lights reduces mercury (as well as other pollutant) air emissions from the burning of fossil fuels for electricity generation. The amount of air emissions produced from the generation of electricity will continue to decrease with less demand for electricity due to energy-efficiency savings.

DCN FLEP-00245

COMMENTER American Iron and Steel Institute

SUBJECT GREEN

COMMENT In addition, several steel companies are participating in the EPA Green Lights program or are otherwise considering replacement of existing lighting systems in the interest of improving energy efficiency and contributing to national goals to reduce greenhouse gas emissions. Failure to provide low-cost options for disposal of mercury-containing lamps will discourage the move toward more efficient energy systems. Moreover, mercury emissions nationwide can be reduced by reducing electric power generation through conversions to more efficiency energy systems.

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-00262

COMMENTS OG&E Electric Services

SUBJECT GREEN

COMMENT The technical record indicates that the largest contributor of mercury loadings to the environment is fossil fuel combustion but that participation in energy-efficient lighting programs such as Green Lights provides one of the most effective means of reducing mercury emissions because efficient lighting consumes less electricity than inefficient lighting, thereby reducing the overall pollution from power plants. The Agency has stated that full participation in Green Lights would result in a reduction of mercury emissions from fossil fuel combustion by 9.7 Mg, or nearly 8 percent, by the year 2000. Finally, the Agency also stated that if efficient lighting were used, the nation's demand for electricity could be reduced by more than 10 percent. Which, in turn, would provide additional environmental benefit through the reduction of other pollutants, namely carbon dioxide, nitrogen dioxide and sulfur dioxide (See 59 FR 38289, July 27, 1994).

RESPONSE

Studies have shown that participation in energy-efficient lighting programs such as Green Lights reduces mercury (as well as other pollutant) air emissions from the burning of fossil fuels for electricity generation. The amount of air emissions associated with the generation of electricity will continue to decrease with continued declines in the demand for electricity due to participation in energy-efficiency programs.

DCN FLEP-00263

COMMENTS Lighting Service, Inc.

SUBJECT GREEN

COMMENT "A goal of Green Lights is to encourage the widespread use of efficient lighting technologies to reduce air pollution from coal combustion." If the disposal of lamps can not be done at a reasonable cost, generators or end users will be less inclined to install energy efficient fluorescent lamps. This scenario

would increase the demand for coal combustion and increase air pollution.

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-00292

COMMENTS Old Dominion Electric Cooperative

SUBJECT GREEN

COMMENT As a generation and transmission rural electric cooperative, Old Dominion supports the Green Lights program, which promotes energy conservation. We agree that potential Green Lights participants will find hazardous waste disposal requirements for spent mercury containing light bulbs under RCRA to be overly burdensome; which will result in fewer participants.

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-00296

COMMENTS State of Ohio EPA

SUBJECT GREEN

COMMENT The Ohio EPA has not received convincing information that the current system for managing lamps under the Subtitle C program has adversely impacted the "Green Lights" program in Ohio. Several companies that have contacted the Ohio EPA for guidance on managing fluorescent lamps have expressed concern in disposing of their lamps at a landfill and have made arrangements to have them recycled. Light retrofitting or upgrading under the "Green Lights" program - The Ohio EPA does not have adequate or sufficient information available to believe that its current regulations have hindered

Green Lights initiatives in Ohio. It stands to reason that facilities would likely replace inefficient lighting with efficient lighting to conserve energy and lower operating cost, irrespective of state regulations.

RESPONSE

The Agency agrees with the commenter's assertion that participation in the Green Lights Program has not been negatively affected by current regulations.

DCN FLEP-00302

COMMENTS Conserve Electric Company, Inc.

SUBJECT GREEN

COMMENT The other concern is that it will severely decrease the amount of energy-saving lighting upgrades as well as the maintenance function of group relamping. The result of reducing the number of energy-saving lighting upgrades is obvious. The result of greatly reducing the practice of group relamping will be an increase in energy consumption by lighting systems due to the fact that additional lamps and fixtures will need to be added to offset the light loss. This will increase the national power demand and will result in significant increase in air pollution.

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-00303

COMMENTS IllumElex Corporation

SUBJECT GREEN

COMMENT We are a EPA Green Lights ally and in fact was the first Lighting Management company to become a member of Green Lights.

RESPONSE

The Agency appreciates the commenter's participation in EPA's Green Lights program. EPA's Green Lights Program encourages corporations to install energy-efficient lighting technologies. Corporations that make the commitment to Green Lights profit by lowering electricity bills and improving lighting quality. Participation in energy-efficient lighting programs also may contribute to reductions in emissions of carbon dioxide, sulfur dioxide, and nitrogen oxides, in addition to metals such as mercury caused by power plants generating electricity.

DCN FLEP-00303

COMMENTER IllumElex Corporation

SUBJECT GREEN

COMMENT The other aspect is the effect that it will have upon energy retrofits and group relamp maintenance programs. The result of reducing the energy retrofit programs is very obvious, but the reduction in the practice of group relamping will be an increase in energy consumption by lighting systems by adding additional fixtures to offset the light loss that will occur when the system is improperly maintained.

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-00306

COMMENTER Lighting Maintenance and Service, Inc.

SUBJECT GREEN

COMMENT The second concern is that this will discourage and consequently reduce energy-saving lighting upgrades. Obviously the reduction of energy-saving upgrades will result in the addition of more fixtures and lamps to offset light loss and increase national power demands and air pollution.

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-L0003

COMMENTER Greater Fort Wayne Chamber of Commerce

SUBJECT GREEN

COMMENT Keeping lighting wastes in the RCRA Subtitle C system does not make sense from an environmental perspective. The record is

clear that the overall reduction in air emissions, including mercury emissions, attributable to full participation in Green Lights and other energy-efficient relamping program far outweighs any perceived benefits of retaining lighting wastes in the hazardous waste system. We believe flexible programs should be structured to remove the current disincentives to the implementation of EPA's Green Lights program for lighting upgrading by replacing inefficient lamp technology with new lamp technology.

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN FLEP-L0005

COMMENTER Massachusetts Energy Efficiency Council

SUBJECT GREEN

COMMENT Second, we also commend the EPA for considering the possible effect of its proposal on energy-efficient lighting programs. As the EPA is well aware, these programs reduce the need to operate power plants, thus reducing emissions from those plants, including mercury emissions. Energy efficiency programs, such as utility DSM programs and the EPA's Green Lights program, are producing very substantial environmental gains while reducing energy costs. It is critical not to inadvertently put those gains at risk when trying to achieve environmental gains in another area.

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN SCSP-L0007

COMMENTER Large Public Power Council

SUBJECT GREEN

COMMENT Energy Efficiency and Conservation Wastes Should be Eligible for Regulation Under This Rule Recent Energy Policy Developments LPPC member utilities, as well as many other electric utilities across the country, have implemented energy efficiency and conservation programs within their service territories in order to avoid or postpone the need to build new power generation plants. These programs have been instituted by utilities voluntarily or have been required by state or local regulatory agencies for both economic and environmental reasons. The programs include utilities offering various incentives to their residential, commercial, and industrial customers to encourage replacement of inefficient lighting, appliances, and other electrical equipment with state-of-the-art, highly energy efficient substitutes. This is a trend in the electric utility industry which has only recently developed. Congress has also recognized the wisdom of these programs and provided a major push to them when it passed the Energy Policy Act of 1992. The Energy Policy Act creates a series of measures to foster greater energy conservation and energy efficiency improvements in homes, office buildings, the commercial sector generally, and industry. The Act requires energy efficiency standards for new housing and buildings, lighting, appliances and various electrical equipment, and requires state regulators to assure utility investments and expenditures for energy conservation and other energy efficiency measures as part of a utility's resource planning. LPPC recognizes that the Agency is also encouraging businesses, local governments and utilities to take voluntary steps to save energy and reduce the emissions of global-warming gases through its Green Lights Program. Consequently, it is expected that the volume of energy efficiency and conservation program generated wastes will increase over the next several years as the provisions of the Energy Policy Act and the Green Lights Program are implemented.

RESPONSE

The Agency appreciates the commenter's participation in energy-efficient lighting programs. Studies have shown that participation in programs such as Green Lights reduces mercury (as well as other pollutant) air emissions from the burning of fossil fuels for electricity generation. The amount of air emissions associated with the generation of electricity will continue to decrease with continued declines in the demand for electricity due to participation in energy-efficiency savings.

DCN SCSP-L0009

COMMENTS National Electric Manufacturers Assn.

SUBJECT GREEN

COMMENT Second, regulation of the disposal of lamps under RCRA Subtitle

C is having a decidedly chilling effect on the nation's efforts to reduce the growth in electric power demand. Such regulation is thwarting Federal, statutory requirements to increase energy efficiency, programs to encourage conversion to more energy efficient lighting such as electric utility demand-side management programs, and EPA's own Green Lights program. The current confusion over EPA's intentions with respect to lamps is adding to the reluctance to implement re-lamping programs.

RESPONSE

EPA appreciates the commenter's support for the Green Lights program. The Agency has found that, holding all other lamp operating costs constant, the cost of lamp disposal had minimal impacts on an upgrading project'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 - only a slight decrease in IRR despite a 100 percent increase in waste management costs. For these reasons, EPA continues to believe that the decision to use T8 lamps is independent of the Agency's policy options.

DCN SCSP-L0009

COMMENTS National Electric Manufacturers Assn.

SUBJECT GREEN

COMMENT Adverse Impact on Re-Lamping Programs It is fair to say that no

one questions the dramatic environmental, economic, and energy benefits that result from upgrading the efficiency of lighting systems. EPA estimates that aggregate national electricity demand could be reduced by 50 percent, annual carbon dioxide emissions reduced by 232 million tons, and sulfur dioxide and nitrogen oxide emissions reduced by 1.7 million and 0.9 million tons per year respectively. The decreased demand for electricity is, of course, accompanied by dramatic savings in electricity costs borne by U.S. businesses. It is indisputable that these savings far outweigh the additional costs of managing spent lamps as hazardous waste or recycling/reclaiming them.

RESPONSE

The Agency appreciates the commenter's agreement that the savings achieved from reduced energy usage associated with participation in energy-efficient lighting programs more than covers the costs of managing lamps as a hazardous waste. Studies also have shown that participation in energy-efficient lighting programs such as Green Lights reduces mercury (as well as other pollutant) air emissions from the burning of fossil fuels for electricity generation. The amount of

air emissions associated with the generation of electricity will continue to decrease with additional declines in the demand for electricity due to participation in energy-efficiency programs.