FINAL ANALYSIS AND FINDINGS REQUIRED BY HEALTH AND SAFETY CODE SECTION 25150.6
DTSC RULEMAKING R-02-04; OAL File Number: Z02-0806-09
MERCURY WASTE CLASSIFICATION AND MANAGEMENT REGULATIONS
DECEMBER 4, 2002

INTRODUCTION

Rulemaking R-02-04, referred to as the "Mercury Waste Classification and Management Regulations," permits handlers of a list of ten categories of discarded mercury-containing products to manage these wastes in a manner that differs from statutory requirements for other hazardous wastes. This rulemaking adds discarded mercury-containing products to the list of wastes that can be managed under the existing State universal waste regulations contained in California Code of Regulations, title 22, division 4.5, chapter 23. The universal waste regulations provide alternate management standards for certain hazardous wastes or categories of wastes that are generated by a large portion of the general public. This document sets forth the analysis and findings required by Health and Safety Code section 25150.6 for regulations that vary from statutory requirements for hazardous wastes.

The Department of Toxic Substances Control (DTSC) accepted comments on this document during the 45-Day Public Comment period for the Mercury Waste Classification and Management Regulations. This document has been updated to address necessary changes, and comments received, and to conform to changes made to the regulations after the public notice periods. The updated document is being made available to the public as required by section 25150.6(a)(1) by being posted on DTSC's Internet site at least 10 working days prior to formal adoption of the regulations and transmittal to the Office of Administrative Law for final review.

THE MERCURY WASTE CLASSIFICATION AND MANAGEMENT REGULATIONS

The regulations do two things. First, they "list," four mercury-containing products as hazardous waste when discarded. Second, they allow management of specific mercury-containing hazardous wastes as universal wastes under the Universal Waste Rule, found in the California Code of Regulations, title 22, division 4.5, chapter 23. The hazardous waste listing element of these regulations does not exempt the affected wastes from any hazardous waste management requirement and therefore, it is not addressed in this analysis.

The waste management element of these regulations establishes standards for discarded mercury-containing products. These discarded products are identified in the regulations as "universal wastes." Universal wastes are managed pursuant to the State's Universal Waste Rule, adopted in chapter 23 of the California Code of Regulations, title 22. The

State's existing universal waste regulations are based on the U.S. Environmental Protection Agency's (U.S. EPA's) Universal Waste Rule.

Both the previously existing and newly identified universal wastes are produced by large segments of society, whereas most other hazardous wastes are produced by industrial generators. Given the wide generation of relatively small volumes of universal wastes, the full hazardous waste requirements developed for large, industrial hazardous waste generators are not optimal for generators of these wastes. However, while the handling of discarded mercury-containing products poses lower risks than most other hazardous wastes, proper management and ultimate disposition of these wastes are essential, because of mercury's toxicity and behavior in the environment. The large cumulative volumes of these wastes present a significant threat to the state's environment if they are not properly managed. For these reasons, DTSC has determined that the management of waste mercury-containing products is appropriate under the universal waste regulations. For further information about the contents, scope, and standards of the Mercury Waste Classification and Management Regulations, please see the 45-Day Public Notice and the subsequent 15-Day Notices of Changes to the original proposal, and the Initial Statement of Reasons for Rulemaking R-02-04.

Temporary Exemptions

Some of the newly listed fluorescent tubes will be allowed to be disposed in non-hazardous solid waste landfills for two years. Only those tubes generated by households and the smallest commercial generators will be eligible for this temporary exemption. The exemption already exists in section 66273.8 and sunsets in 2006. Because the listing becomes effective in 2004, newly listed tubes will be eligible for the exemption for a two-year period. The temporary exemptions were placed into the original Universal Waste Rule to allow time for the State to develop infrastructure to collect universal wastes generated by households and the smallest businesses and move those wastes into the universal waste recycling chain. By delaying the landfill ban for these numerous small entities, DTSC expects to minimize illegal and uncontrolled disposal to the general environment in ditches, vacant lots, and forest lands. Requiring recycling of all these wastes before there are simple and inexpensive solutions would likely result in higher levels of such uncontrolled disposal, which poses a much greater environmental risk than disposal of a small number of tubes to solid waste landfills for those two years.

Permanent Conditional Exemptions

This rulemaking allows households to manage their universal waste, in some respects, as non-hazardous waste. To be eligible for the exemption, the person who generates a mercury-containing universal waste is prohibited from treating or disposing of the waste, and will be allowed to take or send it only to a universal waste handler or destination

facility (i.e., a permitted hazardous waste facility such as a permanent or temporary household hazardous waste collection facility). Thus these changes exempt a household from all management standards, but require proper recycling or disposal.

Management Standards

The Mercury Waste Classification and Management Regulations establish special standards that are specific to the particular type of waste being managed. These standards allow simple and cost-effective management of each new universal waste, while incorporating those requirements necessary to protect the handlers and transporters of the waste, as well as public health and the environment. Most of the mercury-containing wastes added in these regulations must ultimately be recycled to be eligible for universal waste management. Those wastes for which DTSC has determined recycling is not feasible must ultimately be sent for disposal at a permitted hazardous waste landfill. The regulations establish specific standards for discarded mercury-containing products that deviate from the following hazardous waste standards in statutes:

1. Storage time limits at transfer facilities (Health and Safety Code section 25123.3). This section defines a "storage facility." A transfer facility where hazardous waste is held in the course of transportation for less than 10 days in areas zoned industrial and less than six days in all other areas is not a storage facility.

2. Use of the manifest for transportation (Health and Safety Code section 25160). This section requires the use of a Uniform Hazardous Waste Manifest (manifest) for transporting hazardous wastes and establishes procedures for the use of the manifest.

3. Use of a registered hazardous waste transporter (Health and Safety Code section 25163). This section requires all hazardous waste to be transported by a registered hazardous waste transporter and establishes requirements for registered transporters.

4. Hazardous waste facilities permit requirement for offsite intermediate accumulation points and some
on site treatment (Health and Safety Code section 25201). This section requires a hazardous waste facilities permit or other grant of authorization for treatment and for offsite storage of hazardous waste. (Health and Safety Code section 25201 establishes the permit requirement for a treatment or storage facility; Health and Safety Code section 25123.3 defines a storage facility as a facility that accepts hazardous waste from offsite sources.)

5. Prohibition on disposal of hazardous waste at an unpermitted facility: Health and Safety Code section 25189.5. This section prohibits the disposal of any hazardous waste at an unauthorized facility and establishes penalties for this crime.

ORGANIZATION OF THIS DOCUMENT

This document follows the organization of Health and Safety Code section 25150.6. To assist the reader's understanding of the analysis and findings, each subdivision of Health and Safety Code section 25150.6 is shown in *italics* prior to the DTSC Evaluation headings. The DTSC Evaluation for each subdivision includes the analysis, explanation, and/or other information necessary to support the conclusion that this rulemaking accomplished the statutory goals of section 25150.6 . Each subdivision of the statute is addressed in this document and, where appropriate, the DTSC Evaluation identifies those subdivisions that are not applicable to this rulemaking.

INCORPORATION BY REFERENCE

This State rulemaking for the inclusion of waste mercury-containing products into the existing State universal waste regulations is based largely on the corresponding federal Universal Waste Rule. DTSC's rationale for this rulemaking is similar to the rationale behind the federal rule. Any facts and figures used to develop these regulations are specific to California. The four federal register notices that established the federal Universal Waste Rule are incorporated by reference into this document:

58 F.R. 8102 (February 11, 1993): Proposed Universal Waste Rule

59 F.R. 38288 (July 27, 1994): Proposed Lamps Rule

60 F.R. 25492 (May 11, 1995): Final Universal Waste Rule

64 F.R. 36466 (July 6, 1999): Final Rule - Hazardous Waste Lamps

FORMAL SECTION 25150.6 ANALYSIS

As discussed above, DTSC will adopt regulations to exempt waste mercury-containing products from five separate statutory sections: Health and Safety Code sections 25123.3, 25160, 25163, 25189.5, and 25201. The required analysis follows.

Section 25150.6. (a) Except as provided in subdivision (e) and (f), the department, by regulation, may exempt a hazardous waste management activity from one or more of the requirements of this chapter, if the department does all of the following:

(1) Prepares an analysis of the hazardous waste management activity to which the exemption will apply pursuant to subdivision (b). The department shall first prepare the analysis as a preliminary analysis and make it available to the public at the same time that the department gives notice, pursuant to Section 11346.4 of the Government Code, that it proposes to adopt a regulation exempting the hazardous waste management activity from one or more of the requirements of this chapter. The department shall include, in the notice, a reference that the department has prepared a preliminary analysis and a statement concerning where a copy of the preliminary analysis can be obtained. The information in the preliminary analysis shall be updated and the department shall make the analysis available to the public as a final analysis not less than ten working days prior to the date that the regulation is adopted.

DTSC Evaluation: The preliminary analysis was made available on the DTSC Internet site during the 45-Day Comment Period. The analysis was referred to, as required, in both the 45-Day Public Notice and the Initial Statement of Reasons. The analysis was made available for public review and comment simultaneously with the regulations, and the Initial Statement of Reasons. This document updates the preliminary analysis and presents the final analysis and findings pursuant to Health and Safety Code section 25150.6.

(2) Demonstrates that one of the conclusions required by subdivision (c) is valid.

DTSC Evaluation: This document demonstrates that the applicable conclusions found in paragraphs (3) and (4) of subdivision (c) are valid. See the discussions following the text of those paragraphs for the final analysis.

(3) Imposes, as may be necessary, conditions and limitations on the exemption that ensure that the exempted activity will not pose a significant potential hazard to human health or safety or to the environment.

DTSC Evaluation: The conditions and limitations imposed, along with the requirements established by federal, State, and local jurisdictions (including requirements for management of hazardous materials, business operations, and worker safety), to ensure

the exemptions will not pose a significant potential hazard to human health, safety or the environment are the pre-existing universal waste management standards that will be applied to the newly identified universal wastes. That is, the regulations themselves incorporate the conditions necessary to protect human health, safety, and the environment. The particular provisions are discussed in detail later in this document.

> *Section 25150.6 (b) Before the department gives notice of a proposal to adopt a regulation exempting a hazardous waste activity from one or more of the requirements of this chapter pursuant to subdivision (a), and before the department adopts the regulation, the department shall evaluate the hazardous waste management activity and prepare, as required by paragraph (1) of subdivision (a), an analysis that addresses all of the following aspects of the activity, to the extent that the requirement or requirements from which the activity will be exempted can affect these aspects of the activity:*

DTSC Evaluation: This document provides the evaluation and analysis. Specific portions follow after the text of each of the statutory subdivisions quoted below.

> *(1) The types of hazardous waste streams and the estimated amounts of hazardous waste that are managed as part of the activity and the hazards to human health or safety or to the environment posed by reasonably foreseeable mismanagement of those hazardous wastes and their hazardous constituents. The estimate of the amounts of hazardous waste that are managed as part of the activity shall be based upon information reasonably available to the department.*

DTSC Evaluation: The specific waste streams, estimated amounts, and the hazards of their mismanagement are discussed below. Following the discussion of each of the waste streams is an additional detailed description of the hazards of mercury, which is found in all of the hazardous wastes that are being designated as universal wastes.

A. Mercury Switches and Thermometers. Includes:

- Mercury-containing motor vehicle light switches, and vehicles that contain them (M001 Wastes)
- Non-automotive mercury switches and products that contain them (M002 Wastes)

Mercury switches are used in vehicles in a variety of applications, including convenience lighting, antilock brake systems (ABS), ride stabilizers, and alarms. They are used in

some non-vehicle products as well, including tilt switches in certain large household appliances. Mercury switches take advantage of two of mercury's useful properties: its conduction of electricity and its liquid state at room temperature. They typically consist of a capsule (often composed of glass) that contains two metallic contacts and a ball of mercury. If the switch is tilted, the mercury completes the circuit between the two contacts, allowing electric current to flow. Mercury switches are found in a wide range of vehicles manufactured from the mid-1980s until very recently. They also occur in certain older household appliances and in some shoes equipped with flashing lights. The mercury contained in these switches is released when an appliance or vehicle is baled, sheared, crushed, or shredded for recycling. Some of the mercury is emitted directly to air, while some remains associated with the non-metallic fluff that is generated during shredding. Auto shredder fluff is often used as daily cover in non-hazardous Class 3 landfills in California. Note that while the new listing, M001, found in new section 66261.50, applies only to mercury-containing motor vehicle light switches, all mercury-containing switches removed from vehicles are eligible for the universal waste standards that are being adopted under the authority of Health and Safety Code section 25150.6.

DTSC estimates that between 0.75 and 1.5 tons of mercury are contained in the vehicles scrapped annually in California. Little of this mercury is currently recycled or disposed as hazardous waste. A similar amount of mercury may reside in the household appliances recycled annually in California. DTSC does not have data on the number of mercury switches in products such as shoes with flashing lights, but believes it to be small relative to the number in discarded vehicles and appliances.

In current practice, mercury switches are not commonly removed from vehicles and products prior to recycling or disposing of them. It should be noted that, because vehicles and some appliances that contain mercury switches are not currently classified as hazardous wastes, recycling or disposing of them as nonhazardous wastes does not, technically, constitute "mismanagement." Those switches that are removed are subject to full regulation as hazardous waste.

To encourage the recycling of mercury-containing switches, the Mercury Waste Classification and Management Regulations will streamline the requirements for managing removed mercury switches, provided they are recycled to recover their mercury. The streamlined standards for persons who handle and transport removed mercury switches will provide these persons with an administrative incentive and the means to manage them without compromising public health and environmental safety. The risks associated with mismanagement of mercury switches are the same as those posed by other wastes that contain mercury. The environmental and health risks of mercury are discussed separately, later in this document.

- Mercury thermometers

Mercury thermometers take advantage of another of mercury's useful properties: its uniform rate of expansion with increasing temperature. The height of a column of liquid mercury in a sealed glass tube is correlated with the temperature being read. Many households in the State have one or more mercury fever thermometers, as do some hospitals and clinics (although voluntary efforts are underway, in California and nationally, to replace mercury fever thermometers in health care facilities with mercury-free substitutes). Mercury thermometers are also commonly used in laboratories. While DTSC does not have data on the precise number of mercury thermometers in use in California, an estimate of ten million or more may not be unreasonable, given the State's population of 33.8 million persons. Unlike that of vehicles and appliances, the performance of a thermometer does not deteriorate over time, and absent voluntary efforts to eliminate them from health care facilities, they generally would be expected to remain in use until they break. Assuming that ten million mercury thermometers are in use in the State, and that ten percent of these thermometers in use break during any given year, each containing one gram of mercury, approximately one ton of mercury would be released annually. In another calculation based on a U.S. EPA projection for the U.S. as a whole, DTSC estimated that two tons of mercury in thermometers would have been disposed in California' municipal landfills in 2000.

As mentioned above, mercury thermometers are most commonly discarded when they break. Improper disposal of intact and broken mercury thermometers by households is common, and results in the preventable release of a significant amount of mercury. DTSC determined that by streamlining the management requirements, recycling and proper management of thermometers will be accomplished rather than improper disposal, without compromising public health and environmental safety. The risks of the mismanaging mercury-containing wastes are discussed later in this analysis.

B. Dental Amalgam Wastes.

Dental amalgam is composed of approximately 50 percent mercury. Its mercury concentration, therefore, greatly exceeds the hazardous waste regulatory thresholds and it is normally classified as hazardous waste. Amalgam fines, sludges, single-use traps, etc., are currently fully regulated hazardous wastes.

Amalgam waste is generated by nearly all of California's dentists, by each in relatively small quantities. DTSC does not have precise data on the volumes of these waste streams.

Reasonably foreseeable mismanagement practices for amalgam waste include rinsing it down drains, discarding it in the nonhazardous trash, and discarding it in medical waste containers destined for incineration (during which the mercury may be released to the atmosphere).

Under the regulations, all amalgam wastes can be managed as universal wastes. While larger particles of waste amalgam are often recycled by dentists (and are exempt from hazardous waste regulation if they are recycled), smaller amalgam fines have typically been washed down drains. As more dentists in California equip their offices with chairside traps and filters to capture tiny amalgam particles, the Mercury Waste Classification and Management Regulations will provide streamlined standards for handling and transporting them prior to recycling.

C. Pressure or Vacuum Gauges.

This new category of universal waste includes a variety of devices used to measure pressure. They include barometers, manometers, and sphygmomanometers (blood pressure gauges). In order for these devices to work, the surface of the mercury must be directly exposed to the gas whose pressure is being measured. Therefore, the mercury in a vacuum or pressure gauge cannot be entirely encapsulated. Like mercury thermometers, these devices would not usually be expected to be discarded unless broken. Also like some mercury thermometers, some gauges (specifically sphygmomanometers) are the subject of ongoing efforts at health care facilities to replace them with mercury-free substitutes. Because vacuum and pressure gauges are not consumable products that are routinely disposed, DTSC does not have precise data on the number of mercury-containing vacuum or pressure gauges generated in the State. As with thermometers, they are most commonly generated by laboratories and health care facilities.

Pressure or vacuum gauges, which are commonly composed of a glass tube containing mercury, could be mismanaged in ways that could result in the release of mercury to the environment. One possibility is that intact gauges might be discarded in the nonhazardous trash (although DTSC does not have reason to believe that this practice is widespread). In a more likely scenario, a gauge may break and be improperly cleaned up. Spilled mercury, broken pieces, and cleanup residues could be placed in the nonhazardous trash or rinsed or poured into a drain.

D. Mercury-Added Novelties.

Public Resources Code section 15027 defines a mercury-added novelty as "a mercury-added product intended mainly for personal or household enjoyment or adornment. A 'mercury-added novelty' includes, but is not limited to, any item intended for use as a practical joke, figurine, adornment, toy, game, card, ornament, yard statue or figure, candle, jewelry, holiday decoration, and item of apparel, including footwear." As can be seen from the definition, mercury added-novelties would be expected to be generated primarily by households (although wholesalers and retailers might discard some). Many mercury-added novelties are hazardous wastes in California, due to their mercury concentration. The regulations designate all currently nonhazardous mercury-added novelties as hazardous wastes in California, effective in 2004. Because many novelties are not routinely discarded, DTSC cannot estimate precisely the number generated in the State. It is not unreasonable, however, to assume that many, if not most, of California's 12 million households have at least one product meeting the definition of a mercury-added novelty that will one day be discarded.

DTSC believes the discarded mercury-added novelties that are currently hazardous waste are widely mismanaged by being disposed in the nonhazardous waste stream. Households may be unaware that these discarded products are hazardous wastes, and may not know how to properly manage them.

E. Mercury Counterweights and Dampers.

This new universal waste category includes products that take advantage of mercury's high density. These products include counterweights used in some old clocks, bow stabilizers used in archery, and recoil suppressors for shotguns. These products are used primarily by households and, like many of the other products covered by these regulations, they are items that would not be expected to be discarded frequently. Consequently, DTSC is not able to estimate the number of mercury counterweights and dampers discarded in the State. For those that are wastes, the most common and likely mismanagement practice is the same as for other hazardous wastes generated by households: disposal in the nonhazardous waste stream.

F. Mercury Dilators and Weighted Tubing.

Several types of gastrointestinal and esophageal dilators and weighted tubing, some of which use mercury for weight, are used in certain medical procedures. Dilators and weighted tubing are widely used in hospitals and clinics, statewide. Each may contain 100 grams, or more, of liquid mercury. Dilators and weighted tubing are reused again

and again, and are not normally considered consumable products that are frequently discarded. However, like fever thermometers and sphygmomanometers, mercury-containing dilators and weighted tubing have been the subject of voluntary efforts to eliminate the use of mercury in health care facilities. Many of the State's hospitals and clinics may already have replaced their mercury dilators and weighted tubing with non-mercury substitutes. DTSC does not have data on the number of dilators and weighted tubing discarded in California. Waste mercury dilators and weighted tubing could potentially be mismanaged by being disposed in the nonhazardous trash, or in medical waste bags destined for incineration (where mercury might be released to the environment). However, DTSC does not have reason to believe that these are widespread practices.

G. Mercury-Containing Rubber Flooring.

At least one brand of rubber flooring used in gymnasiums in the 1970s was formulated to include mercury. Manufacture of this material apparently ceased in the 1970s, but it may continue to be replaced or disposed from time to time. Schools, colleges, and universities would be expected to be the most common generators of this type of flooring. DTSC does not know how widely mercury-containing rubber flooring was used in California, nor whether most or all of the material has already been removed. Due to this uncertainty, and the infrequent disposal of flooring materials in general, DTSC cannot estimate the amount of this waste flooring that is generated in the State.

The most likely mismanagement scenario for this flooring material is disposal in a nonhazardous waste landfill. DTSC does not have any information to indicate that such disposal is widespread.

H. Mercury Gas Flow Regulators.

Some older residential gas meters (installed prior to 1961) contain mercury gas flow regulators, each of which can contain 100 grams of mercury. The handlers of these meters are, in almost all cases, gas company employees or their contractors. DTSC does not know how many such regulators were installed in California, nor whether most have been replaced with newer, mercury-free meters. Consequently, DTSC cannot estimate the number of such regulators discarded annually in California. Mismanagement scenarios for this waste stream include spilling of mercury during the replacement of a gas meter and improper disposal of a regulator, or a meter that contains one, as nonhazardous waste.

I. Hazards of Mercury.

Mercury can occur in a variety of forms, all of which are toxic. Mercury is poisonous to the central nervous system, and the kidneys, and is a potent developmental neurotoxin. The most infamous outbreak of mercury poisoning was first identified in 1956, among residents of the Minamata Bay region on the island of Kyushu, Japan. These people were highly exposed to methlymercury from ongoing, heavy consumption of fish, which were contaminated with mercury from industrial pollution. According to one author, 59 percent of exposed persons exhibited mental or neurological disorders.
Elemental mercury, which is found in most of the products designated as universal wastes in this rulemaking, is toxic to humans and may be absorbed into the body when a person inhales its vapors. The biggest environmental and public health concern with elemental mercury, however, is its the release into the environment. Mercury can easily move between land, air and water. Once in water, aquatic bacteria can convert it to the methylmercury form, which is considered the more toxic form of mercury. Once converted, methlymecury is taken up by other aquatic organisms and bioaccumulates up the food chain. Predator fish species can have much higher methylmercury levels in their tissues than is seen in the water or the prey species upon which they feed. Humans who consume predator fish species caught in contaminated waters may ingest unsafe levels of methylmercury and may suffer ill effects. Pregnant women and nursing mothers who consume contaminated fish can pass on methylmercury to their babies.

While the regulations address management of elemental mercury, the form of mercury most toxic to biological resources is methylmercury. The regulations are designed to prevent releases of elemental mercury to air, soil, or water, which may indirectly impact elemental mercury conversion to methylmercury and its entrance into the biological food chain.

> *(2) The complexity of the activity, and the amount and complexity of operator training, equipment installation and maintenance, and monitoring that are required to ensure that the activity is conducted in a manner that safely and effectively manages the particular hazardous waste stream.*

DTSC Evaluation: Following is an evaluation and analysis of the management of universal waste in general, followed by detailed analyses for discarded mercury-containing products addressed in the regulations.

A. Management of Universal Waste in General

Effective management of universal wastes, including discarded mercury-containing products, is neither difficult nor complex. Additionally, it requires minimal training and the training is straightforward and inexpensive. The Universal Waste Rule requires that employees be made aware that these wastes are regulated as universal wastes and may not be indiscriminately disposed. Training must cover the specific requirements for properly managing each waste type. Beyond training on physical handling, packaging, and storage requirements, training must address administrative concerns such as proper labeling and accumulation time limits. Further, persons who remove mercury switches from waste vehicles and appliances, or handlers (limited to generators) who drain liquid mercury from pressure or vacuum gauges, must be trained in safe procedures for the activity in question, and in how to respond to spills.

B. Management of Universal Waste Mercury Switches and Thermometers

The Mercury Waste Classification and Management Regulations' requirements for handlers of removed switches and thermometers are straightforward. As long as mercury switches and thermometers remain intact, they are intrinsically safe. Mercury can escape from switches or thermometers that are broken; they must, therefore, be sealed in an airtight container. Handlers who remove switches from vehicles and products are subject to more extensive requirements for training, air monitoring, record keeping, etc. These additional requirements are not especially complex, and should not require additional tools or equipment beyond that which is ordinarily used by persons who recycle vehicles and other products that may contain mercury switches. The requirements include:

- Having a mercury clean-up system available;
- Transferring any spilled mercury to an airtight container;
- Removing switches in a well ventilated area
- Ensuring that employees who remove mercury switches are thoroughly familiar with proper waste handling and emergency procedures.

C. Management of Universal Waste Dental Amalgam

The specific standards for managing dental amalgam waste are straightforward: Amalgam must be placed in airtight containers. In order to prevent the release of amalgam waste to the environment, handlers are prohibited from rinsing amalgam traps into a sink, and they may not place amalgam waste into a medical waste container. No special training or equipment should be necessary to comply with these requirements.

D. Management of Universal Waste Vacuum and Pressure Gauges

As with the other universal wastes added by these regulations, the management of universal waste vacuum or pressure gauges generally should not require special equipment or training. The additional requirements imposed for onsite handlers (limited to generators), who drain the mercury from gauges are somewhat more complex, however. These onsite handlers must:

- Develop and follow written procedures for safely draining mercury,
- Drain gauges over a containment device,
- Keep a mercury spill clean-up kit on hand,
- Transfer drained mercury to an appropriate container,
- Train employees in draining procedures, waste handling, and emergency procedures,
- Store drained elemental mercury in an appropriate container, which is placed in a compatible secondary container,
- Keep records of the gauges drained, and
- Not accumulate more than 35 kilograms of drained mercury at any time.

E. Management of Universal Waste Mercury-Added Novelties.

The management of waste novelties requires no special equipment, training or monitoring on the part of universal waste handlers or transporters. Novelties whose mercury is contained in a battery or batteries are subject to the existing universal waste battery standards; those that contain mercury only in a mercury switch are subject to the standards for switches. Handlers of novelties that contain free liquid mercury must pack them in airtight containers with packing materials that are adequate to prevent breakage.

F. Management of Universal Waste Mercury Counterweights and Dampers.

Management of universal waste mercury counterweights and dampers requires no special equipment, training or monitoring on the part of universal waste handlers or transporters beyond the general universal waste handler and transporter standards.

G. Management of Universal Waste Mercury Dilators and Weighted Tubing.

Management of universal waste mercury dilators and weighted tubing requires no special equipment, training or monitoring on the part of universal waste handlers or transporters beyond the general universal waste handler and transporter standards.

H. Management of Universal Waste Mercury-Containing Rubber Flooring.

Management of universal waste mercury-containing rubber flooring requires no special equipment, training or monitoring on the part of universal waste handlers or transporters beyond the general universal waste handler and transporter standards.

I. Management of Universal Waste Mercury Gas Flow Regulators.

Management of universal waste mercury gas flow regulators requires no special equipment, training or monitoring on the part of universal waste handlers or transporters beyond the general universal waste handler and transporter standards.

> *(3) The chemical or physical hazards that are associated with the activity and the degree to which those hazards are similar to, or differ from, the chemical or physical hazards that are associated with the production processes that are carried out in the facilities that produce the hazardous waste that is managed as part of the activity.*

DTSC Evaluation: The universal waste management standards for all of the new mercury-containing universal wastes require management of the waste "in a way that prevents releases of any universal waste or component of a universal waste to the environment." Universal waste management (i.e., handling, storage, transportation) of waste mercury-containing products generally has fewer chemical or physical hazards than the manner (activities) in which the waste was generated.

As discussed earlier, some waste mercury-containing products are most commonly generated when they break and can no longer be used. Breakage of products that contain liquid mercury, whether accidental or intentional, is associated with more and greater hazards than is careful management of these products after they become waste. The universal waste handling, storage, and transportation standards are designed to prevent breakage and contain any potential releases if liquid mercury is spilled or products are broken during these activities. Consequently, the universal waste management activities will generally pose lesser hazards than generation of the waste (by breakage during use).

Pressure and vacuum gauges and thermometers are two categories of products that pose greater risks to human health and the environment when broken. When they break, gauges and thermometers release mercury. Released mercury can directly endanger human health and can also enter the aquatic environment, where it can be converted to methylmercury, and then enter the food chain. Similarly, the crushing, baling, shearing, or

shredding of vehicles and appliances without first removing all mercury switches leads to the release of mercury to air and land, and potentially, to the exposure of workers to unsafe levels of mercury vapors. The regulations require careful management of discarded products to prevent mercury releases, and also require the removal of all known and removable mercury-containing motor vehicle lighting switches from vehicles prior to processing them by crushing, baling, shearing, or shredding. Note that Health and Safety Code section 25150.6 is not relied upon for authority to adopt the new hazardous waste listings found in section 66261.50; the listings are authorized by other statutes.

The regulations allow onsite draining of mercury (treatment) from discarded mercury pressure and vacuum gauges by handlers who generate the waste. Many mercury gauges are fragile and can easily break, releasing mercury. They also have openings through which mercury can escape. The draining of mercury from these discarded products under the controlled conditions required by these regulations poses fewer hazards than the uncontrolled release of mercury that can potentially occur when these items break, leak, or spill. Additionally, draining of mercury is a common practice when the items are in use as part of routine maintenance (draining "old" mercury and replacing with "fresh" mercury), and therefore poses no extra risk when done onsite by the handler (generator) prior to transport to a recycling facility.

> *(4) The types of accidents that might reasonably be foreseen to occur during the management of particular types of hazardous waste streams as part of the activity, the likely consequences of those accidents, and the actual reasonably available accident history associated with the activity.*

DTSC Evaluation: The most common types of accidents during the management of discarded mercury-containing products as universal wastes will likely be breakage of the products and spillage of mercury from the products. Handlers of these wastes are required by the regulations to train employees in appropriate emergency response procedures and to have mercury spill cleanup kits on hand. The regulations also require universal waste handlers to promptly clean up spilled mercury. These and other safeguards should prevent uncontrolled releases of mercury into the environment. The relatively small amounts of spilled mercury would be confined to the immediate area where a spill occurred and would be promptly cleaned up. Any accumulated mercury from onsite drainage is limited to 35 kilograms; therefore, any potential spills from drained mercury is not only limited to 35 kilograms, but also is mitigated by secondary containment storage requirements.

Vehicle accidents may occasionally occur during transportation of waste mercury-containing products. Universal waste management standards will mitigate the consequences of such accidents. All of the waste specific standards for discarded products that contain liquid mercury require that the products be sealed in a non-leaking container. For fragile products, handlers are required to add packing material to the container sufficient to prevent breakage. Also, the general universal waste transporter standards require transporters to "immediately contain all releases of universal wastes and other residues from universal wastes."

> *(5) The types of locations at which the activity may be carried out, an estimate of the number of these locations, and the types of hazards that may be posed by proximity to the land uses described in subdivision (b) of Section 25232. The estimate of the number of locations at which the activity may be carried out shall be based upon information reasonably available to the department.*

DTSC Evaluation: DTSC estimates that at least one million businesses and 12 million households in California generate universal wastes, including some categories of discarded mercury-containing products. However, some of the universal wastes added by the Mercury Waste Classification and Management Regulations will likely be handled at certain specific types of locations (in most cases, DTSC lacks data on the specific number of each of type of facility listed below that will handle the new universal wastes):

- Handling and removal of mercury-containing motor vehicle light switches will take place largely at the approximately 1400 auto dismantling facilities in the State.
- Handling of non-automotive mercury switches found in large appliances will take place at landfills that divert appliances from disposal, and at recycling facilities;
- Handling of dental amalgam wastes will occur at virtually all of the State's dental offices;
- Handling of vacuum and pressure gauges will occur at health care facilities and laboratories;
- Handling of some fever thermometers, most blood-pressure gauges, and virtually all mercury dilators and weighted tubing will occur at health care facilities;
- Handling of mercury-added novelties, and mercury counterweights and dampers, will occur largely in households;
- Handling of mercury-containing rubber flooring will occur primarily at gymnasiums; and
- Handling of mercury gas flow regulators will take place in various locations, but the handlers of these devices will be, almost exclusively, gas company personnel.
- Disposal of spent fluorescent tubes that are newly identified as hazardous waste by section 66261.50, from households and the smallest businesses, will take place, for the first two years, at all of the State's municipal solid waste landfills.

FINDINGS

Section 25150.6 (c): The department shall not give notice proposing the adoption of, and the department may not adopt, a regulation pursuant to subdivision (a) unless it first demonstrates, using the information developed in the analysis prepared pursuant to subdivision (b), that one of the following is valid:

(1) The requirement from which the activity is exempted is not significant or important in either of the following:

(A) Preventing or mitigating potential hazards to human health or safety or to the environment posed by the activity.

DTSC Evaluation: The finding above is not applicable to the exemption from certain hazardous waste management requirements provided in the Mercury Waste Classification and Management Regulations.

(B) Ensuring that the activity is conducted in compliance with other applicable requirements of this chapter and the regulations adopted pursuant to this chapter.

DTSC Evaluation: The finding above is not applicable to the exemption from certain hazardous waste management requirements provided in the Mercury Waste Classification and Management Regulations

(2) A requirement is imposed and enforced by another public agency that provides protection of human health and safety and the environment that is as effective as, and equivalent to, the protection provided by the requirement, or requirements, from which the activity is being exempted.

DTSC Evaluation: The finding above is not applicable to the exemption from certain hazardous waste management requirements provided in the Mercury Waste Classification and Management Regulations.

(3) Conditions or limitations imposed on the exemption will provide protection of human health and safety and the environment equivalent to the requirement, or requirements, from which the activity is exempted.

DTSC Evaluation: The finding above is applicable to the Mercury Waste Classification and Management Regulations. By streamlining generation, accumulation, and transportation requirements for discarded mercury-containing products, but continuing to impose requirements for their proper disposal or recycling, the regulations will provide protection of human health and the environment that is equivalent to the protection provided by current requirements. A detailed discussion of U.S. EPA's rationale for adopting the federal universal waste standards, which are different from the general hazardous waste control regulations, is found in the four federal register notices incorporated by reference into this document. Following is a summary of U.S. EPA's universal waste rationale that is directly applicable to addition of mercury-containing wastes to the State's existing universal waste regulations.

A. General Philosophy of Universal Waste Management Standards

Universal wastes are different from other hazardous wastes in several key aspects that make the regulatory system equally protective and far less expensive waste than the traditional hazardous waste approach:

Size: Universal wastes are generally small and may be easily hidden. U.S. EPA weighed the benefits of the standard hazardous waste control regulations against their costs. From the point of view that the costs of standard hazardous waste control regulations would likely increase the improper management of difficult to detect wastes, such as many discarded mercury-containing products (e.g., thermometers, switches), U.S. EPA determined that an alternative, less expensive waste management system would generate proper waste management and less environmental damage.

Hazard per unit: Although some universal wastes contain very hazardous substances, each individual unit contains only a small quantity. The most serious hazards result from the release of large quantities of the hazardous constituents during nonhazardous waste management and disposal at nonhazardous waste landfills. U.S. EPA determined that the major focus of the regulations should be to make them straightforward and inexpensive enough to divert disposal of large volumes of universal waste from inappropriate landfills. U.S. EPA found this approach to be an acceptable alternative management system rather than attempting to absolutely minimize the potential for the release of hazardous constituents from each individual unit of universal waste. In other words, risking occasional insignificantly small releases in handling through an inexpensive and a straightforward process was deemed to pose much less of a real world hazard than inappropriate disposal of larger quantities which would result if an expensive process were required.

B. Rationale for the Exemption from the Manifest Requirement, Health and Safety Code section 25160

U.S. EPA determined that using a hazardous waste manifest acted as a disincentive for the proper management of universal wastes. The disincentive comes from the regulatory requirements that accompany the use of a manifest, such as the requirements to obtain an identification (ID) number, comply with the waste code standards, and comply with detailed record keeping and retention requirements. In California, there is also a fee attached to the use of the manifest.

The following requirements that accompany use of the manifest contradict the universal waste management standards in the Mercury Waste Classification and Management Regulations:

1. Use of the manifest requires obtaining an ID number. This is a requirement that is not applied to small quantity universal handlers of universal waste in the rule.

2. Use of the manifest requires that a waste be transported by a registered hazardous waste transporter. The Universal Waste Rule does not require universal waste handlers to use registered transporters. Using registered transporters would increase costs to universal waste handlers thus increasing the tendency toward illegal improper disposal.

3. Use of the manifest requires that a waste be sent to a permitted facility. This would preclude handlers from sending universal wastes to an unpermitted intermediate accumulation point. These accumulation points are one of the greatest incentives for proper accumulation and disposition of universal wastes.

In conclusion, the U.S. EPA has determined, and DTSC concurs, that the value of the ability to track universal waste shipments using manifests is offset by the incentives for proper management provided by requirements in the universal waste regulations. The tracking requirements of the universal waste regulations still includes waste shipment tracking (e.g., bills of lading) and record keeping requirements. Both large and small quantity handlers must keep records of each waste shipment sent and received. Tracking of universal waste shipments can be accomplished through review of handler and destination facility records.

C. Rationale for Exemption from the Registered Hazardous Waste Transporter Requirement, Health and Safety Code section 25163

State law requires use of a registered hazardous waste transporter for offsite shipments of hazardous waste. The major benefit of registration is a slightly higher level of liability insurance because the training and equipment required to obtain a hazardous materials endorsement on a driver's license are equivalent to those of the hazardous waste transporter registration program. Use of a registered hazardous waste transporter adds significant expense to transportation of universal wastes given the much smaller number of registered transporters compared with the number of common carriers licensed to transport hazardous materials under Department of Transportation (DOT) requirements. Most shipments of mercury-containing universal wastes will be subject to DOT requirement. Consequently, allowing transportation without using registered hazardous waste transporters will not have a significant effect.

D. Rationale for Exemption from the Permit Requirement for Offsite Accumulation Points, Health and Safety Code section 25201

The rules allow offsite accumulation by small and large quantity universal waste handlers without a hazardous waste facilities permit. Thus, the public review and comment, California Environmental Quality Act (CEQA) process, and the regulations associated with hazardous waste permits do not apply to offsite accumulation and storage of these waste categories. (The full permit program continues to apply to universal waste destination facilities in California.) This exemption allows universal waste handlers to establish collection and management programs for universal wastes without obtaining hazardous waste facility permits. In addition to the requirements in these regulations, project review, public notice, and CEQA determinations would be addressed for new facilities as a function of site-specific, local agency requirements.

DTSC concurs with the judgment of U.S. EPA in this matter. The ability to accumulate and store universal waste without a permit will encourage: (1) firms to take back spent universal wastes when selling new products which will, when spent, become universal wastes; (2) household collection facilities to accept universal wastes for proper disposition; and (3) third party firms to conveniently collect universal wastes for shipment and ultimate disposition in a cost effective manner. These accumulation activities are an essential component in the system to move universal wastes from generator locations to the permitted disposal and recycling sites.

E. Rationale for exemption from the permit requirement for hazardous waste treatment, Health and Safety Code section 25201.

DTSC is adopting regulations that allow some specified treatment activities without a hazardous waste facility permit or other grant of authorization. Treatment allowed by these regulations includes removal of mercury-containing vehicle lighting switches from discarded vehicles, removal of mercury-containing switches from products including novelties, draining of mercury from gauges, and removal of lamps from discarded fixtures.

Switches: Removal of both mercury-containing motor vehicle light switches and mercury switches from other products is allowed without authorization for several reasons.

- The lamps themselves are small and self-contained. In most cases, they are designed to be replaceable during the lifespan of the product so that they can be removed relatively simply and safely. Because they are self-contained, they can be removed without creating openings or fractures that could release the liquid mercury inside.
- When removed, the switches themselves are small and can be managed as universal waste simply and inexpensively. A number of switches can fit into one small shipping package. Conversely, the products that contain the switches are large and would be cumbersome and expensive to manage as universal waste or hazardous waste. If removal were not allowed, the size and expense of managing whole products as hazardous waste or universal waste or the complexity and expense of obtaining authorization to remove the switches would provide a strong incentive for improper management and ultimate release of the mercury to the environment.
- Removal of switches allows the remainder of the automobile or other product to be recycled for scrap metal value, conserving both landfill space and raw materials.

Gauges: The regulations allow persons managing mercury containing gauges such as manometers and sphygmomanometers to drain the mercury from the gauge into a proper container for shipment to a mercury recycler (or another universal waste handler) without authorization as required by Health and Safety Code section 25201. The allowance to treat waste gauges in this manner is granted because mercury-containing gauges are generally fragile, often open-topped, glass constructions such as glass “U” tubes. DTSC determined that shipment of the mercury separate from the gauge in a robust container would greatly reduce the likelihood that the mercury would be released during management. The cost and complexity of obtaining authorization to drain gauges, often a one-time activity as mercury is eliminated from laboratories, would again serve as a disincentive to draining the gauges prior to offsite shipment. Shipment of non-drained gauges would pose a much greater shipping hazard than shipment of the same amount of

mercury in robust plastic bottles. Standards imposed by the rulemaking on draining include: (a) provision of a mercury spill control kit; (b) secondary containment (such as a plastic tub); and (c) training of the workers draining the gauges.

Lamps: The regulations allow removal of waste lamps from discarded lighting fixtures without the authorization required by Health and Safety Code section 25201 for several reasons:

- The lamps are designed to be replaceable during the lifespan of the fixture so that they can be removed relatively simply and safely numerous times before a fixture is discarded.
- When removed, the lamps are smaller than the fixture/lamp assembly and can be managed as universal waste more simply and inexpensively. A number of lamps can fit into one shipping package such as a standard 30 tube fluorescent lamp wholesale box. Conversely, the fixture/lamp assembly is large, heavy, and would be cumbersome and expensive to manage as universal waste or hazardous waste. If removal were not allowed, the size and expense of managing fixture/lamp assemblies as hazardous waste or universal waste or the complexity and expense of obtaining authorization to remove the lamps would provide a strong incentive for improper management and ultimate release of the mercury to the environment. It would also provide an incentive to continue to use older less energy efficient fixtures in place of more modern energy efficient fixtures.
- Removal of lamps (and, sometimes, PCB ballasts) allows the remaining fixture to be recycled for scrap metal value, conserving both landfill space and raw materials.

F. Rationale for temporary exemption from the requirement that hazardous waste be disposed in authorized facilities, Health and Safety Code section 25189.5.

DTSC is adopting regulations that allow the newly listed hazardous waste lamps produced by households and conditionally exempt small quantity universal waste generators to be eligible for an exemption from the requirement that lamps be disposed only at an authorized facility. Note that this exemption is already in existing universal waste law. This analysis only examines the application of this exemption to the newly designated mercury-containing lamps. An analysis has already been completed for wastes designated universal wastes in existing law. The exemption will last for only the first two years that the listing is effective (2004-2006). The exemption allows sufficient time for household hazardous waste collection facilities to gain funding and develop management

plans for accepting universal waste from both households and "small quantity commercial sources," and for other management alternatives such as takeback programs and third party universal waste collection and transhipment firms to develop. DTSC has determined that very small generators, of universal waste would find the disposal options practiced by larger generators such as direct shipment to recyclers and hazardous waste disposal sites to be very expensive and impractical for small quantities of lamps. The expense and impracticality of hazardous waste disposal for such small quantities of lamps would drive the smaller generators to practice both solid waste (trash) disposal of the easily hidden broken fluorescent tubes and more environmentally harmful disposal to the general environment in ditches, fields, and other inappropriate locations. For example, the current expense of disposing of used tires has resulted in the appearance of small tire piles all over the California countryside. Similar disposal of lamps in appropriate locations would lead to the release of their mercury into surface and ground water and direct exposure to children and wildlife.

DTSC is working with the California Integrated Waste Management Board to ensure that multiple simple and inexpensive options exist for householders and small generators after the sunset of these exemptions in 2006. Soon, the interagency project will expand to also include the California Energy Commission, the State Water Resources Control Board, the Household Hazardous Waste Information Exchange, and other interested stakeholders. The existence of simple options for proper recycling will greatly increase compliance with the requirement for recycling of the newly listed lamps. DTSC's intent is to ensure that households and small generators will find sufficient convenient and inexpensive options for recycling when their lamps become subject to the universal waste management standards in 2006 to prevent habitual illegal disposal from becoming their accepted and long-term practice.

> *(4) Conditions or limitations imposed on the exemption accomplish the same regulatory purpose as the requirement, or requirements, from which the activity is being exempted but at less cost or greater administrative convenience and without increasing potential risks to human health or safety or to the environment.*

DTSC Evaluation: The finding above is applicable to the Mercury Waste Classification and Management Regulations. The regulations essentially expand the State's existing universal waste regulations, which are based largely on the federal Universal Waste Rule. A detailed discussion of the U.S. EPA's rationale for adopting the federal universal waste standards, which are different from the general hazardous waste control regulations, is found in the four federal register notices incorporated by reference in this document. Following is a summary of the rationale.

A. General Philosophy of Universal Waste Standards

The standards of the Mercury Waste Classification and Management Regulations clearly impose a smaller financial cost on generators and other handlers of discarded mercury-containing products than the California's Hazardous Waste Control Law. The standards not only allow less expensive management, they also provide streamlined alternatives to the record keeping, permitting, and other administrative requirements of the general hazardous waste control law, including the statutory requirements that are waived in the regulations. U.S. EPA determined and DTSC concurs, that the costs and administrative convenience of meeting these alternative management standards for universal waste should drive proper management of these universal wastes. DTSC is also waiving the non-RCRA (State only) requirement for use of a registered transporter. In other words, DTSC has determined that the standards of the universal waste regulations will not only be equally protective during the generation, accumulation, and shipment of discarded mercury-containing products, but will also move a much larger fraction of these universal wastes to proper ultimate disposition.

B. Rationale for Exemption from the Manifest Requirement, Health and Safety Code section 25160

By exempting universal waste handlers from the requirement to use a manifest during transportation, the Mercury Waste Classification and Management Regulations also (as discussed above) remove the requirements on handlers to obtain ID numbers, use registered transporters, and move the waste only to permitted facilities (not to unpermitted intermediate accumulation points). By removing the use of a manifest, handlers are allowed a greater administrative convenience and will be much more likely to send discarded mercury-containing products to proper disposition. As discussed earlier, tracking universal waste shipments can be accomplished through review of handler and destination facility records.

C. Exemption from the Registered Hazardous Waste Transporter Requirement, Health and Safety Code section 25163

As discussed above, there is little significant direct environmental protection provided by the registered hazardous waste transporter requirement for handlers of mercury-containing universal wastes. The administrative convenience of using a greater number of common carriers licensed to transport hazardous materials will provide an incentive for proper disposition.

D. Exemption from the Permit Requirement for Offsite Accumulation Points, Health and Safety Code section 25201

As discussed above, the ability to accumulate and store universal waste without a hazardous waste permit will provide additional collection options. This will provide greater administrative convenience because more intermediate accumulation points will be available. Householders and small businesses will benefit from the convenience of additional collection options. The offsite accumulation points must meet universal waste management standards, which are commensurate to hazards of the universal waste

stored. These factors will provide an incentive for proper disposition of mercury-containing universal wastes.

E. Rationale for Exemption from the Permit Requirement for Hazardous Waste Treatment, Health and Safety Code section 25201.

The treatment the regulations allow without the authorization required by Health and Safety Code section 25201, i.e. removing switches from vehicles and other products and removing lamps from fixtures, is identical to normal maintenance activities with these products and offers no significant additional risk. A permit would authorize the same physical activities with similar protections for health and safety. Thus, varying from section 25201 does not increase risk. Such variance does, however, allow much simpler and less expensive management of the waste and simplifies administration of the hazardous waste generator program.

Draining of gauges does present a level of hazard that is not present in managing intact gauges. However, the regulations impose the same types of physical (secondary containment and a spill kit) and training requirements that would be imposed by a formal grant of authorization, such as a permit. Additionally, the hazard of managing the drained gauges and mercury separately is greatly reduced compared to the hazard of managing the mercury inside a fragile, often open-topped, gauge.

F. Rationale for Temporary Exemption from the Requirement that Hazardous Waste Be Disposed in Authorized Facilities, Health and Safety Code Section 25189.5.

As discussed above, imposing the requirement to recycle at permitted hazardous waste facilities before simple options are available to move the lamps to these facilities would place a high cost for shipment on households and businesses. These high costs, combined with the difficulty of surveillance and enforcement for millions of small

businesses and households, would create an incentive for difficult-to-detect illegal disposal. By delaying the recycling requirement until there is sufficient collection and management infrastructure, the regulations ensure that the environment is protected from mercury disposed to completely uncontrolled locations. While the exemptions are effective, the requirement that mercury-containing wastes be disposed at solid waste landfills offers environmental protection superior to uncontrolled disposal in incinerators or to the general environment.

NECESSITY REQUIREMENT

> *Section 25150.6 (d) A regulation adopted pursuant to this section shall not be deemed to meet the standard of necessity, pursuant to Section 11349.1 of the Government Code, unless the department has complied with subdivisions (b) and (c).*

DTSC Evaluation: As indicated above, this document represents compliance with those provisions.

COMPLIANCE WITH THE FEDERAL ACT

> *Section 25150.6 (e) The department shall not exempt a hazardous waste management activity from a requirement of this chapter or the regulations adopted by the department if the requirement is also a requirement for that activity under the federal act.*

DTSC Evaluation: The State regulatory standards are virtually identical to the federal universal waste standards in almost all provisions. When the actual regulatory standards vary, for instance in the requirements for handlers who remove mercury switches from motor vehicles that are destined for crushing, the State standards are more stringent and protective than the federal standards. The major deviation from the federal standards is the scope of the regulated community. The household and small quantity exemptions in the base State Universal Waste Rule are equivalent to, but much narrower in scope, than the corresponding federal exemptions. These State standards will both initially and ultimately regulate a much larger universe of entities than the corresponding federal rules, thereby giving the State a much higher degree of environmental protection than provided by the federal Universal Waste Rule. Thus, these State regulations meet the requirements of Health and Safety Code sections 25159 and 25159.5 for regulations to obtain and maintain RCRA authorization.

AUTHORITY TO ADOPT REGULATIONS FOR CERTAIN HAZARDOUS WASTES

Section 25150.6 (f)(1) On and after January 1, 2002, the department may, by regulation, exempt a hazardous waste management activity from one or more of the requirements of this chapter pursuant to this section only if the regulations govern the management of one or the hazardous wastes listed in subparagraphs (A) to (E), inclusive, of paragraph (2), the regulations identify the hazardous waste as a universal waste, and the regulations amend the standards for universal waste management set forth in Chapter 23 (commencing with Section 66273.1) of Division 4.5 of Title 22 of the California Code of Regulations.

(2) The regulations that the department may adopt pursuant to paragraph (1) shall govern only the following types of hazardous waste:

(A) Electronic hazardous waste, as the department may describe in the regulations adopted pursuant to this subdivision.

(B) Hazardous waste batteries.

(C) Hazardous wastes containing mercury.

(D) Hazardous waste lamps.

(E) Lead-painted wood debris that is a hazardous waste.

DTSC Evaluation: These regulations are being adopted for the waste category described in subdivision (f)(2)(C), hazardous wastes containing mercury. DTSC began the development of the Mercury Waste Classification and Management Regulations after January 1, 2002, which is in accordance with the provisions of this subdivision.

SUNSET OF AUTHORITY

Section 25150.6(g) The authority of the department to adopt regulations pursuant to this section shall remain in effect only until January 1, 2003, unless a later enacted statute, which is enacted before January 1, 2003, deletes or extends that date. This subdivision does not invalidate any regulation adopted pursuant to this section prior to the expiration of the department's authority.

DTSC Evaluation: These regulations will be adopted before January 1, 2003, which is the statutory deadline for inclusion of these waste categories under the State's existing universal waste regulations.

CONCLUSION

Based on the above analysis, DTSC concludes that the regulations meet the criteria of Health and Safety Code section 25150.6 for variance from existing statutory requirements and will provide protection of human health and the environment.