Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

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U.S. Environmental Protection Agency
EPA Docket Center
Submitted via the Federal Rulemaking Portal: https://www.regulations.gov.

Docket No. EPA-HQ-OLEM-2017-0463.

Dear Sir or Madam:

The Connecticut Department of Energy and Environmental Protection ("CT DEEP") has reviewed EPA's March 16, 2018 Notice of Proposed Rulemaking entitled "Increasing Recycling: Adding Aerosol Cans to the Universal Waste Regulations." CT DEEP generally supports this proposed rule, and believes that it will both increase the amount of recycling associated with aerosol cans, and make it easier for handlers to properly manage such cans. However, CT DEEP has a number of comments on the proposed rule, which are detailed in the following numbered sections.

1.) Comment on EPA's Assumption that Eligible States Would Adopt the Aerosol Can Rule When Final. In Section I.D. of the proposed rule preamble, EPA requests comment on its assumption that states would adopt the aerosol can rule if it were to become final. As noted above, CT DEEP generally supports the proposed rule, and barring any major adverse changes to the proposed rule, would be inclined to adopt such a rule if it were made final. However, as with other optional EPA rules, CT DEEP would evaluate adoption in light of available resources and competing priorities and consideration for whether certain more stringent or broader-in-scope provisions are necessary to protect human health and the environment in Connecticut.

2.) Comment on definition of "aerosol can." In Section II.A. of the proposed rule preamble, EPA provides a description of aerosol cans in general. EPA also discusses its proposed definition of aerosol cans in Section IV.A. of the proposed rule preamble. CT DEEP urges EPA to either amend the definition of "aerosol can" or provide a clarification in the final rule preamble as to whether or not certain types of pressurized containers other than typical aerosol containers would meet the definition of an "aerosol can," including but not limited to the following types of containers:

   a. Pharmaceutical products that are delivered in the form of a spray or mist. These can include spray sunscreen products, topical anesthetics such as benzocaine, ethyl chloride, or "Fluori-Methane," and products packaged in inhalers. Some of

these products contain hazardous ingredients, others may contain hazardous propellants. Although they may be much smaller than a typical aerosol can, these devices function in essentially the same manner, and CT DEEP believes that EPA should clarify the status of these products under the proposed Universal Waste rule changes, particularly in light of EPA's anticipated rulemaking with respect to hazardous pharmaceuticals. Such a clarification would help to avoid confusion over which set of requirements such devices should (or may) be managed.

b. Pepper-spray containers, such as those used for crowd control or self-defense by law enforcement agencies. CT DEEP has received several inquiries about how these devices should be managed. This is particularly a concern for law enforcement agencies since these devices have a limited shelf life, and such agencies find themselves having to dispose of large numbers of unused pepper spray containers that have exceeded their shelf lives. Some of these devices utilize flammable propellants and would be regulated as hazardous waste when disposed. CT DEEP believes that these devices should be considered to be "aerosol cans." Like the containers described above, these device function in essentially the same manner as more typical aerosol cans.

c. Spray foam insulation kits, such as the kinds available at home improvement stores. These units are often quite large in size (up to several gallons). Because of their large size, and because of the potential problems they would cause with aerosol can puncturing devices (e.g. foaming up inside the drained liquids collection container, or plugging up the puncturing device), CT DEEP believes that these foam insulation kits should not be considered to be "aerosol cans."

3.) Expected Changes in the Management of Aerosol Cans. In Section III.B. of the proposed rule preamble, EPA describes the kinds of changes it expects the proposed rule would make with respect to the management of aerosol cans (e.g., increased diversion from municipal solid waste landfills and incinerators). CT DEEP agrees with EPA's assessment of these changes, and believes that the proposed rule would also have the following environmentally-beneficial effects:

a. Generators Would Be Likely to Co-Manage Both Hazardous and Non-Hazardous Aerosol Cans if the Proposed Rule Were to Become Final. Many generators of aerosol cans use a wide variety of aerosol products, some of which may be hazardous and some of which may not be hazardous. In addition, it is often difficult or time-consuming for such generators to segregate hazardous from non-hazardous at the point of disposal. Furthermore, generators of a wide variety of aerosol cans may find it difficult to ensure that on-site staff properly manage hazardous vs. non-hazardous waste aerosol cans. As a result, DEEP believes that many such generators would be inclined to manage ***all*** of their waste aerosol cans as Universal Waste (i.e., both the hazardous and non-hazardous ones), since this approach would be the simplest one to implement at their site, would ensure that all types of aerosol cans are properly disposed of, and at the same time would be still be economically feasible under the Universal Waste rule.

b. Generators Would Also Be Likely to Co-Manage Both Empty and Full Aerosol Cans if the Proposed Rule Were to Become Final. It can often be difficult to confirm if an aerosol can is "empty" and therefore exempt from regulation as a hazardous waste pursuant to 40 CFR 261.7. For example, the nozzle may clog, leaving a certain amount of the liquid, solid, and/or gaseous contents inside the can. As a result, CT DEEP believes that many generators of "empty" aerosol cans will opt to manage them under the proposed Universal Waste requirements even though they would not be required to do so. Doing this would also provide consistency for facility staff that generate empty aerosol cans, and serve to prevent non-empty cans from ending up in the solid waste stream, while at the same time being economically feasible under the Universal Waste rule.

CT DEEP notes that it is aware of some generators in Connecticut that are already engaging in either or both of the practices described above, and believes that such practices would only become more common if the proposed rule were made final, owing to the reduced costs afforded by the ability to manage waste aerosol cans as Universal Waste as opposed to fully-regulated hazardous waste.

4.) EPA Should Adopt a Maximum Volume for Aerosol Cans. In section IV.A. of the preamble, EPA notes that it did not set a limitation on the size of aerosol cans eligible for management as Universal Waste under the proposed rule. EPA also notes that the State of Utah set a limit of 24 ounces in that state's Universal Waste designation for aerosol cans. EPA solicits comment on whether or not the federal rule should include a similar provision. In response, CT DEEP believes that EPA should set such a volume limit, and that Utah's 24 ounce limit would be an appropriate limit for a number of reasons. In particular, the 24-ounce number would capture the vast majority of devices ordinarily thought of as "aerosol cans," and would exclude some potentially problematic devices such as the spray foam insulation kits described in comment 2.c. above.

5.) EPA Should Consider Adding a Requirement to Prevent Discharge of Propellant Gases from Aerosol Cans During Storage. In Section IV.B.1. of the proposed rule preamble, EPA discusses the requirements it is proposing with respect to the management of aerosol cans, including requirements to prevent fires and releases. While CT DEEP supports these requirements, it is concerned that they may not go far enough with respect to addressing a particular scenario that is likely to result in releases of propellant gases, which can be highly ignitable or flammable. In particular, generators of aerosol cans often store them loosely inside larger containers such as 55-gallon drums. If the aerosol can nozzles are not removed, or caps are not secured in place on the tops of the aerosol cans, there is the possibility that a nozzle could be depressed or deflected by other cans in the outer container, causing the discharge of the contents of the can. This could occur randomly and unpredictably as the result of jostling of the loose cans during storage or transportation. Such releases could cause the build-up of combustible gases and result in a fire or explosion hazard. This issue is similar to the issue of securing battery terminals when shipping loose batteries in containers. US DOT requires such batteries over 9 volts to be in a separate container or have the terminals covered to prevent short-circuits. CT DEEP believes that EPA should consider a similar provision (such as requiring the removal of spray nozzles or re-capping each aerosol can) to prevent such releases.

6.) Aerosol Can Puncturing and Incompatible Materials. In Section IV.B.2 of the proposed rule preamble (end of page 11661 – beginning of page 11662), EPA requests comment on "establishing additional regulatory requirements for can draining devices and limits on aerosol cans that may pose compatibility problems and that may be punctured and drained under the proposed rules." In response, CT DEEP believes that the final rule should contain an affirmative requirement prohibiting the commingling of incompatible materials generated as a result of the puncturing and draining of aerosol cans. CT DEEP does not believe that the proposed requirement for operators of aerosol can puncturing devices to establish a written procedure that includes addressing incompatibles is sufficiently protective to properly address the incompatibility problem. CT DEEP believes that the prohibition on mixing of incompatibles could be easily added to proposed sections 273.13(e)(iii) and 273.33(e)(iii), alongside the language requiring puncturing to be done in a manner to prevent fires and releases.

7.) Aerosol Can Puncturing by Handlers Other than the Generator of the Aerosol Cans. In Section IV.B.2 of the proposed rule preamble (page 11662, column I, second paragraph), EPA requests comment on "limiting puncturing and draining practices to handlers that are not commercial processors (i.e., a person that processes aerosol cans received from other entities in exchange for compensation). In response, CT DEEP believes that the final rule should not allow commercial processors to puncture and drain aerosol cans that it has received from customers, and that such commercial processors should be required to comply with the requirements for Universal Waste destination facilities in order to conduct this activity. CT DEEP would go even further and suggest that the final rule should prohibit aerosol can puncturing and draining by ***anyone*** other than the initial generator of the aerosol cans, including handlers other than "commercial processors" that are not the generator. CT DEEP believes that there may be entities, such as retailers or wholesalers, which may be inclined to offer this service, though perhaps not for a fee. CT DEEP believes that puncturing and draining at such facilities would present the same potential problems as would be likely to occur at "commercial processors." These problems include things such as accumulating large numbers of aerosol cans without processing them, accumulating large volumes of drained liquids without properly disposing of them, and the attendant fire hazards associated with such accumulation.

8.) Effect on Household Hazardous Waste Collection Programs. In Section IV.B.3., EPA describes what it believes the effect of the proposed rule would be on household waste and waste generated by very small quantity generators (formerly known as conditionally-exempt small quantity generators). CT DEEP agrees with the assessment in this section, and would add the following:

a. If Made Final, the Proposed Rule Would Reduce Costs for Household Hazardous Waste Programs. EPA notes in this section that, if the proposed rule were to become final, hazardous aerosol cans generated from households could be voluntarily managed under the Universal Waste Rule, as provided by 40 CFR 273.8. CT DEEP notes that in many states household hazardous waste programs are required to manage the waste they collect as hazardous waste, are required to dispose of it at a permitted TSDF, or elect to do so voluntarily to ensure proper management. Such is the case in Connecticut. As a result, CT DEEP believes that the proposed rule would have the effect of reducing costs for household hazardous waste programs that manage aerosol cans as hazardous waste, since

management as Universal Waste is typically more efficient and more cost effective than fully-regulated hazardous wastes.

9.) Recommended Changes to Proposed Language at Section 273.13(e)(ii) and 273.33(e)(ii). CT DEEP believes that the opening language of each of these respective sections should be modified to require not only the development of a written procedure for the management of aerosol cans that are punctured and drained, but also that such procedure must be followed. The procedure is of no use if it is not followed. Furthermore, absent language requiring that the written procedure be followed, EPA and authorized states would have no recourse for enforcement of the written procedure in the event that it is not followed.

10.) Comments Regarding Aerosol Cans and the Reactivity Characteristic. CT DEEP notes that EPA makes no mention in the proposed rule regarding reactivity characteristic as it pertains to aerosol cans. More specifically, EPA does not indicate whether aerosol cans may exhibit this characteristic, or if so, under which circumstances. Because of the importance of this issue to the characterization of aerosol cans, and to their proper management, CT DEEP believes that EPA should provide clear guidance on this issue, either in the final rule language or preamble, or in separate guidance. DEEP also has the following specific comments regarding aerosol cans and the reactivity characteristic:

a. There is Clearly an Argument to be Made that Some Types of Aerosol Cans Might Meet the Characteristic of Reactivity. One of the parts of the definition of reactivity concerns materials that are "capable of detonation or explosive reaction if … subjected to a strong initiating source or if heated under confinement." [40 CFR 261.23(a)(6)] When heated under confinement, or subjected to a strong initiating source (e.g., an open flame), certain types of aerosol cans (particularly those that contain ignitable liquids and/or ignitable propellant gases such as propane or isobutane) are capable of failing suddenly. When the can suddenly fails, it can release its contents as a cloud of propellant and liquid particles, that, if a flame or other source of ignition is present, can ignite very rapidly, causing a fireball and an explosive shock wave. Such an explosive reaction could be interpreted as meeting the definition of reactivity as described in 40 CFR 261.23(a)(6). As CT DEEP noted in its May 30, 2014 comments on the Retail NODA (see item number 5 of these comments), DEEP is aware of an incident in Connecticut in which the explosion of a single aerosol can of hairspray produced a shock wave that resulted in significant damage to a hotel.

To be clear, CT DEEP does not believe that all aerosol cans should be considered reactive hazardous waste. For example, CT DEEP believes that an aqueous-based spray window cleaner that uses carbon dioxide as a propellant would not produce "detonation … or explosive reaction" even if it were overheated or subjected to a strong initiating force, such as an open flame. Such an aerosol can may depressurize suddenly, but with nothing like the kind of force described in the previous paragraph.

EPA has stated in numerous guidance documents (see for example RCRA On-Line Documents 11780, 11782, 11806, and 14235) that it cannot make a definitive statement regarding the applicability of the reactivity characteristic to

aerosol cans. However, CT DEEP believes that EPA should provide guidance in some form as to the applicability of the reactivity characteristic to aerosol cans.

b. Reactivity May Be the Only Reason that Some Aerosol Cans Might Be Hazardous. Aerosol cans can be hazardous in any of several ways. They may exhibit the characteristic of ignitability (e.g., by containing an ignitable liquid product, or a propellant that is an ignitable gas). They may exhibit the characteristic of corrosivity (e.g., by containing a corrosive product, such as a caustic oven cleaner). They may exhibit the characteristic of toxicity by containing one or more TCLP constituents in excess of the limits specified in 40 CFR 21.24. They may also be listed commercial chemical products (i.e., U- or P-listed) by containing one of these listed constituents as the sole active ingredient. However, depending on how one defines "reactivity" with respect to aerosol cans, it is conceivable that an aerosol can might be hazardous for the characteristic of reactivity but not ignitability, corrosivity, toxicity, or the U- or P-listed commercial chemical product listings as described above. For example, consider an aerosol product that contains a combustible (but not ignitable) liquid along with a non-ignitable propellant, such as carbon dioxide. If such an aerosol can were "heated under confinement" it could, as described in paragraph a. above, suddenly fail with an attendant rapid deflagration or explosion. In a case such as this, whether or not the reactivity characteristic applies may be the only thing making it a hazardous, and under the proposed rule, a Universal Waste. If the reactivity characteristic were not to apply to this waste, it would not be subject to regulation even under the reduced Universal Waste requirements.

c. Universal Wastes Are Ultimately Subject to RCRA Treatment and Land Disposal Restriction Requirements. Even if aerosol cans are designated as a Universal Waste, they would become subject to full RCRA Treatment and LDR requirements once they are sent to a Universal Waste Destination Facility. Although a Destination Facility may be exempt from RCRA treatment permitting requirements if it engages in recycling (as provided in 40 CFR 261.6(c)), it would remain subject to RCRA storage permitting requirements for any storage that occurs prior to treatment. In addition, wastes from the treatment or recycling of aerosol cans must meet the applicable LDR standards prior to land disposal. As a result, if an aerosol can is designated as reactive hazardous waste, it would be subject to the LDR treatment standards for reactive hazardous waste.

d. Reactive Hazardous Wastes May Be More Difficult or More Expensive to Treat or Dispose of than Other Types of Hazardous Waste. CT DEEP has become aware that aerosol cans may be more difficult and more expensive to treat or dispose if they have been assigned the D003 (reactivity) waste code, as opposed to other waste codes (e.g., D001, ignitable hazardous waste). CT DEEP suspects that this may be the case for either or both of the following reasons: (1) many commercial TSDFs are prohibited from accepting reactive hazardous wastes under their TSDF permits, or are restricted with respect to the specific types of reactive hazardous waste they are allowed to accept; and, (2) D003 reactive hazardous wastes are more limited in terms of the available LDR treatment technologies as opposed to D001 ignitable hazardous wastes (more specifically, 40 CFR 268.40 indicates that the latter can be treated using the DEACT,

REORGS, or CMBST treatment technologies, whereas the only allowed treatment technology for the former is DEACT). This raises a practical consideration with respect to the applicability of the reactivity characteristic to aerosol cans – namely that designating them as reactive may limit recycling/disposal options and increase the cost of proper management.

This concludes CT DEEP's comments on the Proposed Rule. Please contact Ross Bunnell of my staff if you should have any questions on the foregoing. Mr. Bunnell may be reached by phone at (860) 424-3274, or by email at ross.bunnell@ct.gov.

Sincerely,

Robert C. Isner, Director
Waste Engineering & Enforcement Division

RCI:rqb
cc: Terri Goldberg, NEWMOA