



**Department of Energy**

Washington, DC 20585

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OSWER Docket  
EPA Docket Center  
Environmental Protection Agency  
Mail Code: 5305 T  
1200 Pennsylvania Avenue, N.W.  
Washington, DC 20460

**Attention Docket ID No. RCRA-2003-0014**

Dear Sir or Madam:

Re: *Hazardous Waste Generator Program Evaluation*

On April 22, 2004 (69 *FR* 21800), the U. S. Environmental Protection Agency (EPA) issued an Advance Notice of Proposed Rulemaking (ANPRM) seeking information from stakeholders in an effort to evaluate the effectiveness of the Resource Conservation and Recovery Act (RCRA) hazardous waste generator regulatory program and to identify aspects of the program that could be improved. The ANPRM explains that the goals of this effort are to foster improved program effectiveness, foster a pollution prevention stewardship philosophy, and reduce regulatory compliance costs, where practicable. To assist in gathering information for this effort, the ANPRM has identified a number of topics and specific questions for which EPA is soliciting input.

The U. S. Department of Energy (DOE) appreciates the opportunity to comment on the ANPRM. For clarity, the enclosed comments are preceded by a reference to the section of the ANPRM to which they apply and brief descriptions of the topic and/or question to which DOE's comments are directed. If you have any questions or need further clarification of our comments, please contact Jerry Coalgate of my staff at 202-586-6075 or [jerry.coalgate@eh.doe.gov](mailto:jerry.coalgate@eh.doe.gov).

Sincerely,

*W.B. Fortune for*

Thomas T. Traceski  
Director  
Office of Pollution Prevention  
and Resource Conservation

Enclosure



**UNITED STATES  
DEPARTMENT OF ENERGY**

**Response to  
*HAZARDOUS WASTE GENERATOR PROGRAM  
EVALUATION***

**ADVANCE NOTICE OF PROPOSED RULEMAKING  
(69 FR 21800; April 22, 2004)**

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**UNITED STATES DEPARTMENT OF ENERGY  
RESPONSE TO  
HAZARDOUS WASTE GENERATOR PROGRAM EVALUATION**

**ADVANCE NOTICE OF PROPOSED RULEMAKING  
(69 FR 21800; April 22, 2004)**

**IV Request for Information**

**IV.1 Program effectiveness**

**pp. 21802, col. 3 – 21803, col. 1**

**The ANPR asks whether the RCRA hazardous waste generator regulations are easy to understand, whether they are logically organized, and whether the actions needed to comply with the regulations are clear.**

1. While the generator regulations are fairly logically organized, the multitude of cross-references among sections within 40 CFR part 262, as well as cross-references from part 262 to sections in other parts of Title 40 in the *Code of Federal Regulations* reduces their usability and diminishes the clarity and ease with which generators can determine what actions are needed to comply.
2. DOE has found the RCRA Online service provided on the EPA Web page to be a useful tool for generator understanding of applicable requirements. The ready availability of EPA guidance and regulatory interpretations compiled in this database offers the regulated community a valuable source of materials that aid in understanding the RCRA implementing regulations and assist in addressing the many waste management issues that arise. The Department encourages the EPA to continue providing current information and guidance via RCRA Online.

**IV.2 Program improvements**

**p. 21803, cols. 1 - 3**

**The ANPR asks what elements of the hazardous waste generator regulations could be improved, whether there are specific challenges or barriers that prevent compliance with the regulations, and whether certain requirements create unnecessary administrative burdens.**

1. (a) The hazardous waste determination process and accumulation times established in the generator regulations are reasonable for industrial generators. However, for academic teaching and research laboratories, where small amounts of a large variety of wastes are generated and typically managed in accumulation areas near their point of generation (i.e., satellite accumulation areas), DOE believes that additional flexibility would be appropriate. To provide such flexibility, consideration should be given to adopting a “laboratory process unit” concept for the purposes of defining the point of laboratory waste generation and clarifying the start of accumulation times for laboratory wastes. DOE suggests this new concept be applied to laboratories that now operate under the regulatory provisions applicable to satellite accumulation areas [40 CFR 262.34(c)]. This

suggestion is further discussed below and is similar to the approach adopted for several university laboratories in 40 CFR part 262, subpart J, “University Laboratories XL Project—Laboratory Environmental Management Standard.” Also, it is consistent with the finding of the *Report on Consensus Best Practices for Managing Hazardous Wastes in Academic Research Institutions*, Howard Hughes Medical Institute, October 2001, Attachment 2 to *Report to Congress: Evaluating the Consensus Best Practices Developed Through the Howard Hughes Medical Institute’s Collaborative Hazardous Waste Management Demonstration Project and the Need for Regulatory Changes to Carry Out Project Recommendations* (EPA530-R-02-008, March 2002, p. 29).

As a general matter, in manufacturing processes the determination of when a material becomes a solid waste is made after the material is removed from the “manufacturing process unit” [40 CFR 261.4(c)]. DOE suggests that this concept also be applied to laboratory environments so that chemicals would not be considered solid waste until they have been removed from the laboratory process unit (i.e., an area in which an experimental, analytical, or instructional process involving the use of chemicals at one or more stations takes place under the supervision of a qualified person, such as a principal investigator, research director, laboratory manager, or other technically qualified individual). Under this approach, chemicals would be allowed to accumulate in the laboratory process unit indefinitely without making a hazardous waste determination until a specified quantity, such as 55 gallons (or one quart for acutely hazardous material), has been collected. More chemicals might be allowed a higher limit, such as 110 gallons (or two quarts for acutely hazardous material), if secondary containment were provided and operations were governed by an environmental management system (EMS). Within a specified time after reaching applicable threshold (e.g., 10 days), the container(s) would need to be dated and excess material would then be moved to a central waste collection area. Waste generation from the laboratory process unit would be defined to occur when the dated containers were transferred to the central waste accumulation area from the laboratory process unit. At the central waste accumulation area, a qualified environmental professional would determine whether accumulated chemicals must be managed as hazardous waste or could be reused or recycled. Such a determination would be required to occur within a specified time (e.g., 30 days) after the date on the accumulation container. Also, within the same specified time, chemicals determined to be hazardous waste would need to be transferred to either an on-site 90-day hazardous waste storage facility or a permitted on-site or off-site hazardous waste treatment, storage, or disposal facility. A maximum capacity could be established for accumulation of hazardous wastes within the central waste accumulation area.

Inherent in this approach is the reality that laboratory operations occur by or under the supervision of a principal investigator, research director, laboratory manager, or other technically qualified person, and occur within an area assigned to that person. Activities not occurring within such an area, or outside the scope of supervision by such a responsible person, would not be considered to occur within a laboratory process unit. Prior to the time chemicals are moved to the central collection area from the laboratory process unit, the chemicals would be subject to the applicable laboratory practice

regulations promulgated under the Occupational Health and Safety Act (see 29 CFR 1910.1450, “Occupational Exposure to Hazardous Chemicals in Laboratories”).

Incorporating this laboratory process unit approach into the generator regulations would be a more workable system than the existing satellite accumulation area system as it has been applied to some laboratory settings. Specifically, the existing provisions in 40 CFR 262.34(c)(1), which allow a generator without a permit or interim status to accumulate limited quantities of hazardous waste “in containers at or near any point of generation where wastes initially accumulate that is under the control of the operator of the process generating the waste,” have been interpreted in the ways listed below when applied to some laboratories.

- In certain cases, each experiment/research station in a laboratory has been interpreted to be a “process generating the waste.”
- Similarly, each experiment/research station has sometimes been interpreted to be “the point of generation where wastes initially accumulate.” Under this interpretation, a separate waste accumulation container must be placed at or near each experiment station.
- In some cases, the individual researcher at each experiment/research station has been interpreted to be “the operator of the process generating the waste.” Hence, each researcher has been required to maintain control of the waste accumulation container near his/her experiment station. Furthermore, “control” has been interpreted to mean that, because individual researchers cannot be present to monitor their waste accumulation containers at all times, locking devices must be used. Restricting building access has been determined to be insufficient for meeting this requirement. Overall, these interpretations result in a very narrow definition of “operator of the process,” which appears to be inconsistent with the definitions of “generator,” “person,” and “operator,” in 40 CFR 260.10, and EPA guidance [EPA, “Hazardous Waste Generated in Laboratories,” Memorandum from E. Cotsworth to RCRA Senior Policy Advisors in EPA Regions I – X, Faxback #14618, August 16, 2002].
- Individual researchers have been required to characterize wastes accumulated in containers and assign Land Disposal Restrictions (LDR) treatment standards codes before transfer of the containers to a central accumulation area.

DOE believes that the interpretations listed above may cause the undesirable outcomes listed below, which would be alleviated with no adverse effect on personnel safety, human health, or the environment if the suggested laboratory process unit approach were adopted and implemented.

- Requiring a separate waste container for each experiment/research station significantly increases the number of waste containers in a laboratory, which increases the potential for accidental spills and releases of potentially hazardous chemicals.

- Requiring that hazardous waste determinations be made at each experiment/research station significantly reduces the opportunity for reuse and recycle of surplus chemicals, because individual researchers are not necessarily aware of reuse and recycle opportunities throughout the laboratory facility.
- Requiring researchers to make hazardous waste determinations and assign LDR treatment standards codes significantly increases the number of persons requiring training. In addition, it may result in waste characterizations being made by personnel that are less qualified than an environmental professional who would routinely perform this task at a central accumulation area.

DOE notes that compliance with 40 CFR 262.34(c)(1) was not as significant an issue before regulations implementing the LDR program were promulgated. However, for the purpose of identifying the point at which materials become subject to the LDR treatment standards, the EPA has articulated certain interpretations of the meaning of the term “point of generation.” As a result, regulatory inspectors are now interpreting the term “point of generation” as having the same meaning for purposes of evaluating compliance with satellite accumulation area requirements as for LDR program purposes. In some cases, this has resulted in a determination that the point of generation for laboratory wastes is located upstream of the container in which waste accumulates, because the waste leaves the “process” prior to placement in the container. DOE submits that it is impractical to expect that full waste designation for newly generated laboratory wastes can be made before they have been accumulated in containers, collected, and evaluated in the context of other laboratory wastes generated at the same facility. Accordingly, DOE suggests that the point of generation at which laboratory waste should be characterized is the point at which the accumulation container exits the laboratory process unit and is placed in a central accumulation area. This regulatory approach would allow trained environmental professionals to fully designate waste after accumulation in order to provide for full evaluation of reuse and recycling opportunities at the laboratory facility, LDR compliance, and proper disposal, while assuring safe management during waste accumulation periods.

(b) If the EPA decides not to adopt the laboratory process unit approach suggested in Specific Comment IV.2, item 1(a), DOE suggests that the Agency (either in guidance or the preamble to an NPRM or final rule) explicitly interpret certain laboratory processes as being subject to the manufacturing process unit approach [40 CFR 261.4(c)]. For example, High Pressure Liquid Chromatography (HPLC) equipment uses solvents to carry chemical samples into the HPLC unit. Within the unit, the carrier solvent containing the chemical sample is pumped through a column that separates the chemical from the solvent. The carrier solvent exits the column and is collected in a small container. The solvent enters the container through a tube that penetrates the top of the container. DOE suggests that the container into which the solvent is conveyed be considered part of the HPLC unit and that the whole HPLC, including the container, be considered a manufacturing process unit. If this approach were adopted, then pursuant to 40 CFR 261.4(c), the solvent collected in the container would not become solid or

hazardous waste until it has been removed from the unit. In addition, there would be no further need to debate whether, due to the tube penetration at the top, the container complies the requirement in 40 CFR 265.173(a) that storage containers be closed unless waste is being added or removed.

(c) If the EPA decides not to adopt the laboratory process unit approach suggested in Specific Comment IV.2, item 1(a), DOE also suggests that EPA consider modifying 40 CFR 262.34(c) by creating a new type of generator accumulation area. This would be a central accumulation area for short-term aggregation (or staging) of hazardous wastes as they are being moved from satellite accumulation areas to on-site 90-day storage facilities or permitted treatment, storage, or disposal facilities located either on site or off site. The concept would be similar to the “transfer facility” concept that already exists for hazardous waste transporters in 40 CFR 263.12. Specifically, DOE suggests modifying 40 CFR 262.34(c) by adding the following provisions in an appropriate location:

A generator may accumulate hazardous wastes without a permit or interim status and without complying with the requirements in 40 CFR 262.34(a) (applicable to generator storage up to 90 days) at a central location near the point of generation for the purpose of sorting, consolidating, or repackaging the wastes provided that: (i) the wastes are in containers; (ii) no waste remains in the central area longer than 10 days; and (iii) the generator complies with the hazardous waste container requirements in 40 CFR 265.171, 265.172, and 265.173.

In the approach suggested here, the accumulation of hazardous waste laboratory chemicals in containers at or near their point of generation would remain subject to the existing requirements applicable to satellite accumulation areas [40 CFR 262.34(c)]. However, the generator would not necessarily be required to transfer excess accumulated hazardous wastes within 3 days directly from the satellite accumulation area to either on-site 90-day storage units or permitted on-site or off-site treatment, storage, or disposal units. Instead, the generator would have the option to transfer excess wastes to the new central accumulation unit instead, where the waste could be held in containers for up to 10 days without a permit. During the 10 days, the waste could be sorted, consolidated, or repackaged prior to being transferred to either on-site 90-day storage units or permitted on-site or off-site treatment, storage, or disposal units.

2. Although 40 CFR 262.34(a)(2) does not state that tanks are subject to its date marking requirement, EPA guidance indicates that the Agency intended for both tanks and containers to be marked with accumulation start dates [*see* 51 *FR* 10146, 10160 (March 24, 1986); EPA, “RCRA, Superfund, and EPCRA Call Center Monthly Report,” EPA530-R-03-002f, Faxback #14683, June 2003]. DOE suggests that the EPA modify 40 CFR 262.34 to clarify the requirement for marking the accumulation start date on a hazardous waste tank.
3. DOE suggests that the EPA consider the following other clarifications in 40 CFR 262.34(c), if the laboratory process unit approach is not adopted:

- 40 CFR 262.34(c)(1) allows a generator to accumulate hazardous waste without a permit in containers “at or near any point of generation.” The definition of the phrase “at or near,” as used in this section, is not clear. As a result, the question of proper location for a satellite accumulation area has frequently been raised during regulatory inspections at DOE facilities. DOE believes the confusion would be lessened if guidance on this point were available. DOE would appreciate having such guidance structured to also address a related issue concerning accumulation of flammable or reactive materials that must be stored in accordance with the Uniform Fire Code (UFC). It is not always possible to provide UFC-compliant accumulation “at or near” the point of generation. Hence, DOE encourages the EPA to consider issuing an interpretation of the phrase “at or near the point of generation” that would provide sufficient flexibility to accommodate the safety requirements for storage/accumulation of hazardous wastes imposed by other applicable regulations (such as the UFC).
  - DOE suggests that the EPA consider modifying 40 CFR 262.34 to explicitly authorize generators to treat hazardous wastes without a permit or interim status in accumulation areas located near the point of generation, if such treatment is performed in a tank or container that complies with the technical standards in 40 CFR 265, subpart I or subpart J, as appropriate. In addition, the EPA should consider specifying in 40 CFR 262.34 that, while the treatment cannot involve incineration, burning, or other thermal treatment, any other treatment technology protective of human health and environment and that can be safely performed in a tank or container would be acceptable.
4. Another aspect of 40 CFR part 262, subpart J, “University Laboratories XL Project—Laboratory Environmental Management Standard” [*see* 40 CFR 262.104], that DOE believes should be made available to all laboratories is allowing containers too small to be labeled (e.g., vials, test tubes, and other glass waste) to be placed into secondary containers for labeling.
  5. DOE supports finalization of the changes to the Uniform Hazardous Waste Manifest program proposed in the *Federal Register* on May 22, 2001 [66 *FR* 28239-28318]. In particular (consistent with the Department’s comments submitted October 4, 2001, Docket Number F-2000-UWMP-FFFFF), DOE encourages the EPA to move toward use of a single, easily acquired manifest form while retaining origination and/or destination States’ ability to require additional information on the form. DOE also supports the development of an electronic manifest system that would simplify the task of preparation and tracking of these important documents.
  6. DOE suggests that the EPA add a definition for “empty tank” to the regulations, including delineation of the status of the residue in an empty tank, similar to 40 CFR 261.7 (Residues of hazardous Waste in Empty Containers).
  7. 40 CFR Section 262.34(a) requires generators who accumulate hazardous waste for less than 90 days to comply with the requirements in 40 CFR 265, subpart D with respect to

their 90-day storage units. Subpart D requires that the owner/operator file a written report to the Regional Administrator within 15 days after an incident occurs that requires implementing the contingency plan [40 CFR 265.56(j)]. DOE suggests that the EPA consider clarifying the meaning of the phrase “implementing the contingency plan” in this requirement, at least with respect to 90-day storage units. Specifically, DOE suggests that a written report be required only if the contingency plan was implemented in response to an event that could threaten human health or the environment.

8. 40 CFR Section 262.34(b) allows generators to request an extension of up to 30 days to the 90-day accumulation time. The EPA Regional Administrator may grant such an extension on a case-by-case basis if the need for the extension arises due to unforeseen, temporary, and uncontrollable circumstances. DOE suggests that the EPA consider providing a self-implementing provision for extensions of the type described in 40 CFR 262.34(b) if secondary containment for the affected storage unit has been provided. The generator could still be required to establish and document that the circumstances requiring the extension were unforeseen, temporary, and uncontrollable. However, instead of submitting such documentation to the Regional Administrator, it would be available in the generator’s records for review by the EPA (and authorized State representatives) at any time.

#### **IV.3 Program redundancy**

##### **p. 21803, col. 3**

**The ANPR asks whether elements of the RCRA hazardous waste generator regulations overlap, duplicate, or conflict with other federal regulations.**

1. While the hazardous waste characteristic definitions are not part of the hazardous waste generator program, DOE believes generator compliance with hazardous waste determination and pre-transport requirements would benefit from harmonization of the RCRA regulations defining corrosivity and ignitability with the U.S. Department of Transportation’s (DOT) hazardous materials regulations (HMRs) defining corrosivity and flammability. Currently, one property included in the definition for a “corrosive” liquid in the RCRA regulations is that the liquid corrodes steel at a rate greater than 6.35 millimeters per year (40 CFR 261.22). In comparison, one of the criteria that defines a liquid as “corrosive” in the DOT HMRs is that the liquid corrodes steel at a rate greater than 6.25 millimeters per year (49 CFR 173.136 and 173.137). Similarly, the RCRA regulations define a material as ignitable if its flashpoint is less than 140°F (40 CFR 261.21). In comparison, the DOT HMRs define a liquid as flammable if its flashpoint is less than or equal to 141°F (49 CFR 173.120). The reasons for these types of small differences between the RCRA and DOT regulations are not clear, but addressing the inconsistencies between the two regulatory programs could avoid potential conflicts.

#### **IV.4 Program innovations**

##### **p. 21803, col. 3**

**The ANPR asks how the EPA can best facilitate the use of environmental management systems (EMSs) and other management techniques as vehicles to improve the hazardous waste generator program.**

1. As the EPA is aware, Executive Order 13148, “Greening the Government Through Leadership in Environmental Management,” requires all federal agencies to implement EMSs at appropriate agency facilities by December 31, 2005. Accordingly, DOE has developed a directive (DOE O 450.1, *Environmental Protection Program*) that requires DOE facilities to implement EMSs as part of existing Integrated Safety Management Systems (ISMS). DOE notes the EMSs implemented at the Department’s facilities have and will continue to improve environmental performance at those facilities. The EPA could provide additional incentive for facilities that have EMSs in place through relief from administrative and other requirements, possibly in the form of reduced reporting requirements and frequency of inspections for generators with records of good compliance.
- 2.. DOE suggests that the EPA expand the University Laboratories XL Project in 40 CFR part 262, subpart J to allow participation by additional academic and research laboratories who implement EMSs, including DOE national laboratories and technology centers, as well as other research laboratories operated by other federal agencies.

#### **IV.6 State programs**

##### **p. 21804, cols. 1 & 2**

**The ANPR asks whether there are specific State hazardous waste regulations, interpretations, or implementation programs that the EPA should review and evaluate for improving and/or clarifying the hazardous waste generator regulations.**

1. The California Health and Safety Code sections 25123.5 (treatment definition), 25143.14 (residues), 25150.6 (exemptions), and 25200.3.1 (laboratory waste management) adopt bench top treatment regulations giving research institutions, such as DOE laboratories, some flexibility in treating hazardous wastes. Treatment residues are rendered non-hazardous, and under specific controlled conditions are discharged to the sanitary sewer at constituent-specific concentration levels which do not exceed regulatory limits established by the publicly owned treatment works (POTW). DOE recommends that the EPA review the risks and hazards associated with the California approach and, if appropriate, adopt a similar federal program allowing laboratories to perform small-scale treatment on some types of hazardous wastes without a permit.
2. Some States (e.g., California) promote environmentally responsible recycling of electronic wastes [see California Code of Regulations §§ 66273.1 – 66273.90 containing emergency regulations to implement the provisions of the California Electronic Waste Recycling Act of 2003]. DOE encourages the EPA to review the programs in California and other States with electronic waste recycling programs and identify potential ways to modify the Universal Waste regulations (40 CFR 273) or otherwise foster improvements related to handling and management of electronic waste by generators.
3. The Washington State Department of Ecology has issued regulations [WAC 173-303-170(3)(b)] and guidance (Technical Information Memorandum #96-412) on how generators may treat hazardous wastes on-site, in accumulation tanks and containers

without a permit [referred to as Treatment by Generator (TBG)]. DOE believes the Washington State TBG program has been effective in reducing the dependence of hazardous waste generators on off-site treatment, storage, and/or disposal facilities (TSDF). In addition, the TBG program enables generators to reduce the hazards of their waste at the generation site and reduces the quantity and hazard of waste transported over public highways. To assure broad and consistent implementation by regulators and eligible generators, DOE encourages the EPA to provide greater clarification within both regulations and guidance on permissible generator treatment, especially with respect to satellite accumulation areas.

#### IV.9 Burden reduction

##### p. 21804, col. 2

**The ANPR mentions several initiatives that the EPA has identified where reductions in record keeping and reporting requirements are believed to be possible while still maintaining the ability to measure environmental results. Comments are requested on other areas of the hazardous waste generator program where similar burden reduction can occur and still allow the EPA to measure environmental results.**

1. DOE laboratory facilities generate many different chemicals with many LDR treatment standard waste codes. A number of these waste streams consist of a pure, unused, excess chemical (not a manufactured product) that has been characterized and containerized properly for the applicable hazards. They are *not* bottles containing mixtures of waste chemicals, contaminated soil, or lab packs. For these latter waste streams, the LDR notification requirements in 40 CFR 268.7(a) allow generators to send a one-time notice with the initial shipment to a TSDF. In the case of pure chemicals, however, a notice must be sent with each shipment of a different chemical. As a result, DOE laboratory facilities, as well as other research laboratories that generate small volumes of multiple waste types, incur a much greater LDR paperwork burden than industries generating uniform, large-volume waste streams. Furthermore, the LDR paperwork reductions already implemented by the EPA did not alleviate this paperwork burden.

To address the continuing LDR paperwork burden experienced by laboratories, DOE requests that the EPA consider designating pure, unused, excess chemicals as a single “waste stream” for purposes of LDR notification requirements. This waste stream would consist of pure chemicals, potentially including those having waste codes D001 through D043, F027, and any P- or U-code. DOE further requests that a one-time, LDR notice to receiving TSDFs be allowed for the pure chemicals waste stream. This notice should identify waste codes for all of the pure chemicals that the generator expects to send to the TSDF as part of the pure chemicals waste stream. Thereafter, any pure chemical included in the original notice could be sent to the TSDF without forwarding an additional notice with each shipment. A subsequent notice should be required only if new pure chemicals are expected to be sent. It should be noted that this comment addresses only LDR notification requirements. DOE recognizes that a hazardous waste manifest would still be required to accompany each waste shipment.

**IV.10 Fostering pollution prevention and recycling**  
**p. 21804, cols. 2 & 3**

**The ANPR asks what actions can be taken to encourage generators to practice source reduction and recycling practices.**

1. DOE suggests the following possible ways for the EPA to encourage generators to practice source reduction and recycling practices:
  - Provide informational tools, such as public education and sustainability labeling.
  - Adopt new regulatory strategies, such as extended product responsibility requirements.
  - Work with industry to provide more environmentally benign chemical substitutes.
  - Work with chemical manufacturers to review the shelf life limitation of chemicals, establish unbiased shelf-life data, and encourage generators to extend the shelf life of chemicals based on reliable scientific data.
  - Provide more pollution prevention literature targeted to specific industries, and consolidate the EPA websites that deal with pollution prevention into a central clearinghouse website.