



Department of Energy
Washington, DC 20585

January 7, 1997

Ms. Susan Hazen
Director
Environmental Assistance Division
Office of Pollution Prevention and Toxics (7408)
U.S. Environmental Protection Agency
401 M Street SW
Washington, DC 20460

Dear Ms. Hazen:

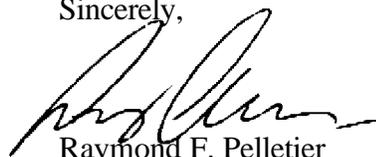
During development of guidance for implementing Executive Order 12856, *Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements*, the Environmental Protection Agency questioned whether the laboratory activity exemption under Section 313, Toxic Chemical Release Inventory, of the Emergency Planning and Community Right-to-Know Act was appropriate for use by national laboratories operated by the Department of Energy. Although anecdotal evidence suggested that Departmental laboratory activities used relatively small quantities of listed toxic chemicals, little quantitative information was available. In an effort to better quantify the impact of the exemption, the Department collected information during a two-year period (1993-1994) to determine the range of toxic chemicals usage in exempted laboratory activities. Enclosed are the results of the analysis the Department conducted. The final draft of this analysis was sent to your staff last fall for review.

This analysis finds that most Department of Energy sites, including the national laboratories, do not use large quantities of listed toxic chemicals in exempted laboratory activities; that is, most of the exempted laboratory activities at our sites use toxic chemicals in quantities less than 10,000 pounds. This confirms the Department's belief that large quantities of toxic chemicals are not going unreported at our sites because of the use of the laboratory exemption. This analysis also shows that the exemption does provide appropriate and effective Section 313 reporting burden relief at many sites, as was your Agency's intention in establishing the exemption. In particular, relief is provided to those sites that are reporting Section 313 chemical releases for other non-exempted uses, to the extent that they do not have to track and determine release contributions from numerous, small amounts used in exempted laboratory activities.

For these reasons, the Department of Energy requests that you continue the laboratory activity exemption for Section 313 reporting, and should you re-visit this issue in future rulemakings, please consider the findings of our report in your analysis.

If you have any questions on this report, please contact Ms. Jane Powers of my staff at (202) 586-7301.

Sincerely,

A handwritten signature in black ink, appearing to read 'Raymond F. Pelletier', written in a cursive style.

Raymond F. Pelletier

Director

Office of Environmental Policy and Assistance

Enclosure

***EPCRA SECTION 313 LABORATORY
ACTIVITY EXEMPTION:
ASSESSMENT OF IMPACT ON DOE
TRI REPORTING***

Final Report

November 29, 1996

Prepared by:

**U.S. Department of Energy
Office of Environment, Safety and Health
Office of Environmental Policy and Assistance**

Technical Support by:

**Analytical Services, Inc.
7135 Minstrel Way
Suite 303
Columbia, Maryland 21045
(301) 596-7673**

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Attachment A: *DOE Laboratory Activity Toxic Chemical Usage Report Form*

Attachment B: *DOE Sites Providing Laboratory Activity Toxic Chemical Usage Information*

1.0 Summary

Executive Order (E.O.) 12856, *Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements*, directs all Federal facilities to comply with provisions of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) and the Pollution Prevention Act of 1990 (PPA). EPCRA section 313, commonly referred to as the Toxic Chemical Release Inventory (TRI), requires certain facilities to submit annual reports on releases and transfers of listed toxic chemicals. These reports, which must be submitted to the U.S. Environmental Protection Agency (EPA) and designated state agencies, inform government officials and the public of releases of toxic chemicals into the environment.

Under E.O. 12856, TRI reporting applies to all Federal facilities with 10 or more employees (or hourly equivalent) that annually manufacture or process more than 25,000 pounds, or otherwise use more than 10,000 pounds of a listed toxic chemical. Although most listed toxic chemicals used at a facility have to be included when determining whether EPCRA releases and transfers must be reported, some exemptions are provided. One such exemption applies to chemicals used in particular types of laboratory activities. EPA granted the Laboratory Activity Exemption (“the exemption”) as a burden-reducing step to exclude toxic chemicals used by small laboratories from EPCRA section 313 threshold determination and release reporting.

During the development of guidance for implementing of E.O. 12856, EPA questioned whether the exemption, which was originally developed for use by small laboratories located on manufacturing facilities, was appropriate for use by “national laboratories” operated by the U.S. Department of Energy (DOE). EPA questioned whether the exemption might result in the non-reporting of significant releases of toxic chemicals by DOE national laboratories and other Departmental facilities with laboratories. Although anecdotal evidence suggested that DOE laboratory activities used relatively small quantities of listed toxic chemicals, little quantitative information was available to determine what impact the use of the exemption by DOE sites might have on TRI reporting. In an effort to better quantify the impact of the exemption, DOE collected information during a two-year period (1993-1994) to determine the range of toxic chemical usage in exempted DOE laboratory activities. An analysis of the information collected is presented in this report.

Analysis of the information collected supports the anecdotal evidence that most DOE sites, including the national laboratories, do not use large quantities of listed toxic chemicals in exempted laboratory activities. For calendar year 1993, 31 of the 35 sites that submitted Toxic Chemical Usage reports indicated that exempted laboratory activities used toxic

chemicals in quantities less than 10,000 pounds. For 1994, 21 of the 24 sites that submitted chemical usage reports indicated that exempted laboratory activities used toxic chemicals in quantities less than 10,000 pounds.

Two of the four sites that reported using toxic chemicals in quantities greater than 10,000 pounds in exempted laboratory activities in 1993, and one of three sites in 1994, also submitted EPCRA section 313 TRI reports (Form R) for those chemicals because they met the reporting thresholds for other non-exempted uses. Two sites, Sandia National Laboratory-NM and Los Alamos National Laboratory, reported a total of seven chemicals used in exempted laboratory activities exceeding 10,000 pounds per year. These chemicals were not reported to the TRI because their use did not meet reporting thresholds for other non-exempted uses in either 1993 or 1994.

Because most DOE sites reported toxic chemical usage under 10,000 pounds per year in exempted laboratory activities (i.e., were below the reporting threshold), this exemption does not appear to result in significantly fewer DOE sites or chemicals being reported to the TRI. However, because the laboratory activity exemption applies to chemical release reporting as well as reporting threshold use determinations, it does provide appropriate and effective TRI reporting burden relief at many DOE sites. In particular, relief is provided to those sites that are reporting chemical releases to the TRI for other non-exempted uses, to the extent that they do not have to track and determine small release contributions from numerous, small amounts used in exempted laboratory activities.

2.0 Background

EPCRA (Public Law 99-499) was enacted in 1986 to provide the public with important information on hazardous and toxic chemicals in their communities, and to establish emergency planning and notification requirements to protect the public in the event of planned or accidental releases of extremely hazardous substances. EPCRA contains four major provisions: planning for chemical emergencies (sections 301-303); emergency notification of chemical accidents and releases (section 304); reporting of hazardous chemical inventories (sections 311 and 312); and TRI reporting (section 313).

On February 16, 1988, EPA promulgated a final rule (40 CFR 372), implementing the provisions of EPCRA section 313. These provisions, which are the focus of this report, originally applied to the manufacturing facilities (standard industrial classification codes 20-39) with 10 or more employees (or hourly equivalent) that annually manufacture or process more than 25,000 pounds, or otherwise use more than 10,000 pounds of any chemical listed on the section 313 toxic chemical list. The chemicals on the toxic chemical list are referred to

as “listed chemicals” or “TRI chemicals.” For each chemical manufactured, processed, or otherwise used in excess of the established threshold quantity, facilities must prepare an annual TRI report using EPA’s Form R, the Toxic Chemical Release Inventory Reporting Form. Whereas the applicability of the TRI reporting (i.e., section 313 reporting) requirements is based on the quantity of a toxic chemical manufactured, processed, or otherwise used at the facility, the actual TRI report includes only releases and transfers of these chemicals and quantity of toxic chemicals managed in waste..

In compliance with EPCRA section 313, contractors at DOE government-owned-contractor-operated (GOCO) sites began TRI reporting in 1988 for their activities. In 1992, DOE assumed a leadership role by committing to agency-wide voluntary TRI reporting.¹ This comprehensive site-wide reporting commitment included all activities, including GOCO activities at all sites meeting reporting thresholds. At that time, DOE began working with EPA to help resolve issues relating to Federal facility TRI reporting. To assist DOE site personnel in performing TRI reporting, a series of training workshops were conducted beginning in March 1993 and continuing through 1994. On August 3, 1993, President Clinton signed Executive Order 12856, *Federal Compliance with Right-To-Know Laws and Pollution Prevention Requirements*, directing all Federal agencies, including DOE, to comply with the provisions of EPCRA and the PPA, including TRI reporting. Because most DOE sites were already reporting to the TRI on a voluntary basis, they were already complying with that requirement. Compliance was further reinforced by a Secretarial implementation directive which committed the Department to comply with the provisions of the Executive Order and assigned responsibilities for meeting the commitments.²

While DOE and EPA were working together to develop training workshops and guidance for implementing EPCRA requirements at Federal facilities, EPA questioned whether certain exemptions provided to industry would be appropriate if applied to Federal facilities. In particular, EPA questioned whether use of an exemption intended to allow toxic chemicals used in small laboratories at industrial manufacturing facilities to be excluded from EPCRA reporting and threshold determination may allow large quantities of TRI chemicals to escape reporting when applied to large DOE laboratories. This exemption, referred to as the Laboratory Activity Exemption, applies to listed toxic chemicals that are manufactured, processed, or otherwise used in certain laboratory activities (40 CFR 372.38(d)).

¹ The Secretary of Energy, “Department of Energy (DOE) Participation in the 33/50 Pollution Prevention Program and Voluntary DOE Toxic Chemical Release Inventory Reporting,” dated September 22, 1992.

² The Secretary of Energy, “Implementation of Executive Order 12856, “Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements”

In 1994, DOE determined that 71 sites were covered under E.O. 12856 and of that number, it was estimated that approximately 30 sites were potentially subject to the EPCRA section 313 TRI reporting requirements. Some of these sites contain major multi-program laboratories, single-purpose laboratories, and smaller special-mission laboratories. These laboratories are necessary to fulfill DOE's mission to increase efficiency and the choice of energy sources, supporting basic and applied research in science and technology, addressing environmental quality issues, improving industrial competitiveness, and a continued contribution to a secure national defense.³ Although the exemption allows certain laboratory activities to be excluded from EPCRA reporting, it applies only to the portion of a given facility that meets specific laboratory activity criteria. Many of these DOE "laboratories" actually include activities that do not meet the laboratory activity exemption and are, therefore, not exempt from EPCRA reporting for those activities.

Although it is known that DOE sites contribute less than 0.2 % of the reported industry-wide releases of toxic chemicals each year, no quantitative information was available on any additional unreported releases that may occur in exempt DOE laboratory activities. However, anecdotal evidence collected from DOE national laboratories during the 1993 and 1994 training workshops suggested that these laboratories use small quantities of toxic chemicals.

To determine whether the exemption might exclude the use, and therefore reporting of the potential release of large quantities of toxic chemicals, the DOE Office of Environmental Policy and Assistance requested that sites with laboratory activities provide basic information regarding the use of the exemption for the two-year period of 1993 and 1994.⁴ This report presents an analysis of the information received from the responding DOE sites.

3.0 Laboratory Activity Exemption

Under the Laboratory Activity Exemption (40 CFR 372.38(d)), listed toxic chemicals that are manufactured, processed or otherwise used in certain laboratory activities do not have to be considered for threshold (i.e., section 313 applicability) determinations and release (i.e., TRI) calculations. The exemption is intended to exempt facilities from tracking small or diffuse quantities of listed chemicals used for quality control, experimental, or certain information-generating purposes (53 FR 4503).

³ National Energy Policy Plan, "Sustainable Energy Strategy - Clean and Secure Energy for a Competitive Economy," dated July 1995.

⁴ EH-231 Memorandum, dated December 22, 1993, Subject: Department of Energy Laboratory Activity Toxic Chemical Usage Report Guidance.

The “laboratory activities” included in this exemption are limited to research and development, sampling and analysis, and quality assurance/quality control. Other activities, such as specialty chemical production, pilot plant scale operations, and laboratory support operations, are specifically excluded from this exemption and therefore must be included in all threshold determinations and release calculations. Further, the exemption does not exempt all facilities that are laboratories or have the word “laboratory” in their names, nor does the exemption apply to portions of a facility that do not directly support laboratory activities.

The exclusion is only applicable where exempt laboratory activities are performed under the direction of a “technically qualified individual,” which is defined by the Toxic Substance Control Act regulations (40 CFR 720.3(ee)). These regulations state that a technically qualified individual must meet the following criteria:

- Capable of understanding the health and environmental risks associated with the chemical substance which is used under his or her supervision because of education, training, or experience, or a combination of these factors;
- Responsible for enforcing appropriate methods of conducting scientific experimentation, analysis, or chemical research to minimize such risks; and
- Responsible for the safety assessments and clearances related to the procurement, storage, use, and disposal of the chemical substance as may be appropriate or required within the scope of conducting a research and development activity.

4.0 Method of Data Collection

Information regarding use of the laboratory activity exemption was requested from all DOE sites with significant laboratory activities, including all “national laboratories,” for the calendar years 1993 and 1994. Sites were requested to provide information that was available through a variety of tracking systems, inventories, procurement data, disposal records, or other sources. A one-page form (Attachment A) served to standardize the information provided by the sites and was designed to avoid being overly burdensome. Information was requested on all TRI chemicals used by DOE laboratory activities in quantities greater than 1,000 pounds per chemical. For the purposes of this report, “using the exemption” refers to the use of at least one listed toxic chemical in exempted laboratory activities in quantities greater than 1,000 pounds.

Using the best information available, sites were asked to report the quantities of each chemical used in exempt laboratory activities using the following ranges:

- 1,000 to 3,000 pounds
- 3,001 to 6,000 pounds
- 6,001 to 10,000 pounds
- Greater than 10,000 pounds

5.0 Sites Using the Exemption and Chemicals not Reported Due to the Exemption

Information was provided by 35 sites for calendar year 1993 and 24 sites for calendar year 1994. A table listing the sites that responded is provided as Attachment B. Typically, DOE sites using listed chemicals in exempted laboratory activities are also required to perform TRI reporting due to TRI chemicals being manufactured, processed, or otherwise used in other (non-exempt) activities. While use of the exemption may relieve a site from reporting a particular chemical, only two DOE sites were exempted from TRI reporting entirely because they used the laboratory activity exemption. Table 1 shows the number of DOE sites using the exemption for chemical usage greater than 1,000 and 10,000 pounds, and the number of sites at which chemicals were used in exempted quantities greater than 10,000 pounds and were not reported because they did not meet reporting thresholds for non-exempt uses.

	1993	1994
Total number of DOE sites submitting laboratory activity toxic chemical usage reports	35	24
■ Number of sites using the exemption for chemical usage greater than 1,000 pounds per chemical	15	10
■ Number of sites using the exemption for chemical usage greater than 10,000 pounds per chemical	4	3
▶ Number of sites at which chemicals were used in exempted quantities greater than 10,000 pounds and were not reported to the TRI because they did not meet reporting thresholds for non-exempt uses	2	1

Table 1. DOE Sites and the Laboratory Activity Exemption

Approximately 88% of the responding sites reported that they either did not use the exemption, or that they used the exemption for listed toxic chemicals in quantities less than 10,000 pounds per chemical for 1993 and 1994. Since the “otherwise use” threshold is 10,000 pounds, and 88% of the sites reported exempted use of less than 10,000 pounds per chemical, reporting thresholds would not be met unless a site is using the chemical(s) in other non-exempt activities.

Of the 35 sites providing 1993 information, only 4 (11%) of the sites indicated using more than 10,000 pounds of a listed toxic chemical in exempted laboratory activities during calendar year 1993. For calendar year 1994, only 3 (12%) of the 24 responding sites indicated using more than 10,000 pounds of a listed toxic chemical in such activities. This means that in the absence of the exemption, these sites (Los Alamos National Laboratory, Savannah River Site (SRS), Sandia National Laboratory-NM, and Oak Ridge National Laboratory (ORNL)) would have exceeded the threshold for one or more listed chemicals and therefore would have been required to file Form R reports in 1993 and/or 1994 based on the laboratory activity alone. However, two of these sites, SRS and ORNL, submitted annual TRI reports for each of the subject chemicals due to other (non-exempt) activities.

Table 2 identifies the sites and lists the toxic chemicals used in quantities greater than 10,000 pounds, and notes whether the site filed a Form R report for the chemical based on other non-exempt activities. A total of seven chemicals over the two-year period were used in exempted activities in excess of 10,000 pounds per year and were not reported to the TRI for other non-exempted uses at either Los Alamos National Laboratory or Sandia National Laboratory-NM.

TRI Chemical Used in Exempt Activities in Quantities > 10,000 Pounds	DOE Site	Years Exemption Used	Site Reported the Chemical to the TRI for Other Non-exempted Uses
Acetone*	Los Alamos National Lab	1993	No
		**	No
Chlorine	Los Alamos National Lab	1993	Yes
		**	Yes
Cyclohexane*	Sandia National	1993	No
Ethylene Glycol*	Sandia National	1994	No
Hydrochloric Acid*	Los Alamos National Lab	1993	No
	Sandia National	**	No
		1994	No
Methanol*	Los Alamos National Lab	1993	No
		**	No
Nitric Acid	Los Alamos National Lab	1993	Yes
	Oak Ridge National Laboratory	**	No
		1993	Yes
	Savannah River Site	1994	Yes
		1993	Yes
		1994	Yes
Sulfuric Acid	Los Alamos National Lab	1993	Yes
	Sandia National	**	Yes
		1994	Yes
Toluene*	Sandia National Laboratory-NM	1993	No
		1994	Yes
Xylene*	Sandia National Laboratory-NM	1993	No
		1994	Yes

* Chemicals used in laboratory exempt activities in quantities greater than 10,000 pounds/year and not reported to the TRI for non-exempt uses by the sites.
** Los Alamos National Laboratory did not provide information regarding use of the exemption in 1994.

Table 2. TRI Chemicals Used in Quantities Greater Than 10,000 Pounds in Exempt DOE Laboratory Activities

6.0 Conclusion

Analysis of the information collected supports the anecdotal evidence that most DOE sites, including the national laboratories, do not use large quantities of listed toxic chemicals in exempted laboratory activities. Most of the DOE sites that responded to the Toxic Chemical Usage survey, 31 out of 35 in 1993 and 21 out of 24 in 1994, used toxic chemicals in exempted laboratory activities in quantities less than 10,000 pounds per year. Two of the four sites that reported using toxic chemicals in quantities greater than 10,000 pounds in exempted laboratory activities in 1993, and one of three sites in 1994, also submitted EPCRA section 313 TRI reports (Form R) for those chemicals because they met the reporting thresholds for other non-exempted uses in either 1993 or 1994. Two sites, Sandia National Laboratory-NM and Los Alamos National Laboratory, reported a total of seven chemicals used in exempted laboratory activities exceeding 10,000 pounds per year; these were not reported to the TRI because they did not meet reporting thresholds for other non-exempted uses in either 1993 or 1994.

Because most DOE sites reported toxic chemical usage under 10,000 pounds per year in exempted laboratory activities (i.e., were below reporting threshold), this exemption does not appear to result in significantly fewer DOE sites or chemicals being reported to the TRI. However, because the laboratory activity exemption applies to chemical release reporting as well as reporting threshold use determinations, it does provide appropriate and effective TRI reporting burden relief at many DOE sites. In particular, relief is provided to sites reporting chemical releases to the TRI for other non-exempted uses, to the extent that they do not have to track and determine small release contributions from the numerous, small amounts being used in exempted laboratory activities.

Attachment A

DOE Laboratory Activity Toxic Chemical Usage Report Form

Prepared by:

Office of Environmental Policy and Assistance (formerly Office of Environmental Guidance)
Office of Environment, Safety and Health
U.S. Department of Energy

Attachment B

DOE Sites Providing Laboratory Activity Toxic Chemical Usage Information

DOE Sites Providing Laboratory Activity Toxic Chemical Usage Information

DOE Site	Years Lab Activity Information Submitted	Years Exemption Used for Chemicals in Quantities Greater than 1,000 pounds
Ames Laboratory	1993	
Argonne National Laboratory - East	1993	1993
Bettis Atomic Power Laboratory	1993	
Brookhaven National Laboratory	1993, 1994	
Environmental Measurements Laboratory	1993, 1994	1993, 1994
FERMI National Accelerator	1993, 1994	
Fernald Environmental Management Project	1993, 1994	1993, 1994
FUSRAP	1993	
Grand Junction	1993, 1994	1993
Hanford Site	1993, 1994	1993, 1994
Idaho National Engineering Laboratory	1993, 1994	
Inhalation Toxicology Research Institute	1993, 1994	1993, 1994
Kansas City Plant	1993	
Knolls Laboratory - Knolls Site	1993, 1994	1994
Knolls Laboratory - Kesselring Site	1993, 1994	
Knolls Laboratory - Windsor Site	1993, 1994	
Los Alamos National Laboratory	1993	1993
National Renewable Energy Laboratory	1993	1993
Naval Petroleum Reserve #1	1994	
Naval Petroleum Reserve #3	1993, 1994	
Oak Ridge - Johnson Controls	1993	
Oak Ridge K-25 Site	1993, 1994	1993, 1994
Oak Ridge National Laboratory	1993, 1994	1993, 1994
Oak Ridge Y-12 Plant	1993, 1994	1993, 1994
Oak Ridge ISE	1993	
Pinellas Plant	1993, 1994	
Pittsburgh Naval Reactors	1994	
Portsmouth Gaseous Diffusion Plant	1993, 1994	1993
Princeton Plasma Physics Laboratory	1993, 1994	

DOE Sites Providing Laboratory Activity Toxic Chemical Usage Information

DOE Site	Years Lab Activity Information Submitted	Years Exemption Used for Chemicals in Quantities Greater than 1,000 pounds
Sandia National Laboratory - CA	1993	
Sandia National Laboratory - NM	1993, 1994	1993, 1994
Savannah River Site	1993, 1994	1993, 1994
Weldon Spring Site	1993, 1994	
Western Area Power Administration	1993	
West Valley Demonstration Project	1993, 1994	
Yucca Mountain	1993	
SURA/Continuous Electron Beam Accelerator	1993	1993