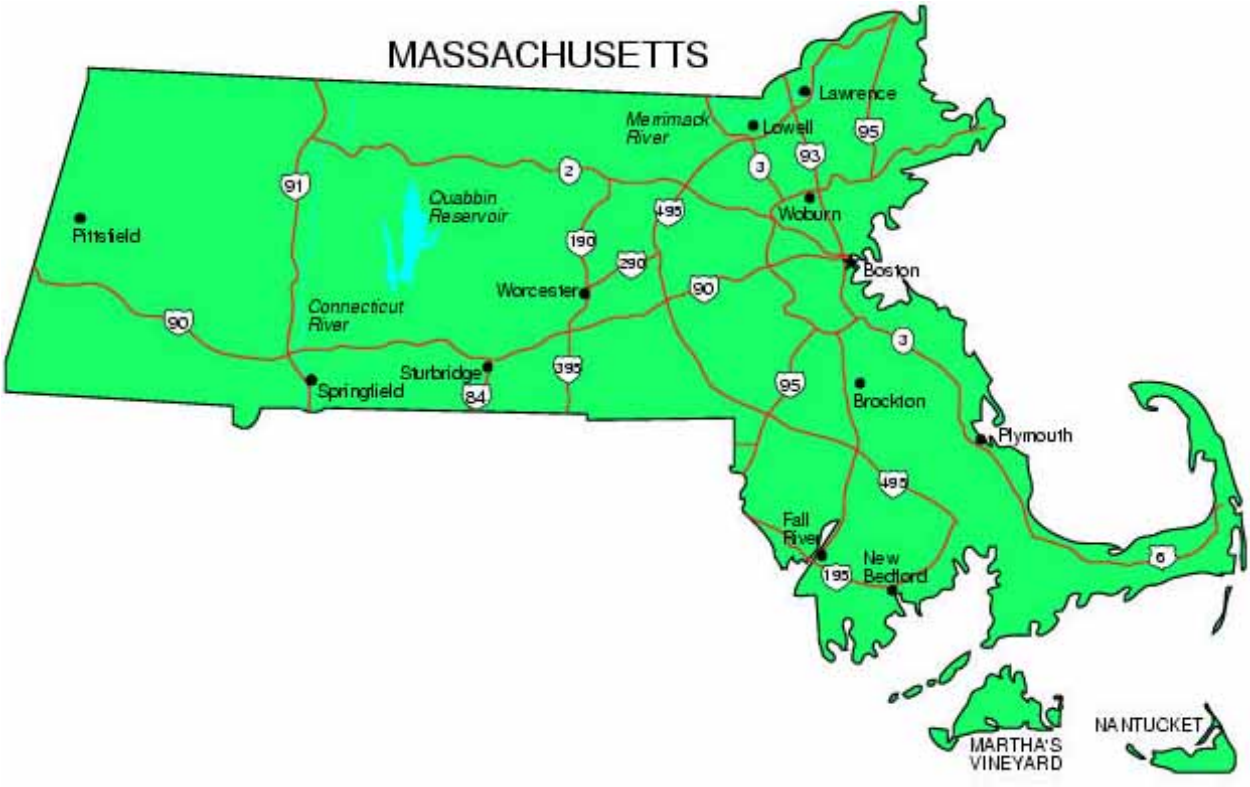
2007 MASSACHUSETTS LOW-LEVEL RADIOACTIVE WASTE SURVEY REPORT



DEPARTMENT OF PUBLIC HEALTH
BUREAU OF ENVIRONMENTAL HEALTH
RADIATION CONTROL PROGRAM
SCHRAFFT CENTER, SUITE 1M2A
529 MAIN STREET
CHARLESTOWN, MA 02129
617-242-3035
617-242-3457 Fax

2007 MASSACHUSETTS LOW-LEVEL RADIOACTIVE WASTE SURVEY REPORT

January 2009

THE COMMONWEALTH OF MASSACHUSETTS
DEVAL L. PATRICK, GOVERNOR
TIMOTHY P. MURRAY, LIEUTENANT GOVERNOR

EXECUTIVE OFFICE OF HEALTH AND HUMAN SERVICES
JUDYANN BIGBY, M.D., SECRETARY

DEPARTMENT OF PUBLIC HEALTH
JOHN AUERBACH, COMMISSIONER

BUREAU OF ENVIRONMENTAL HEALTH
SUZANNE CONDON, DIRECTOR

RADIATION CONTROL PROGRAM
ROBERT WALKER, DIRECTOR

DATA ANALYSIS AND SURVEY REPORT LAYOUT:
WILLIAM SELLERS, JR.
DEPARTMENT OF PUBLIC HEALTH
RADIATION CONTROL PROGRAM

TABLE OF CONTENTS

Page

LIST OF TABLES

Page

TABLE OF CONTENTS continued

LIST OF FIGURES

Page

PREFACE

The Low-Level Radioactive Waste Management Board was established pursuant to the provisions of Chapter 111H, section 2 of the Massachusetts General Laws, and was the lead state agency responsible for planning and implementing the management of low-level radioactive waste (LLRW). In 2002, the Board was abolished and its powers and duties were transferred to the Department of Public Health (DPH). The Radiation Control Program (RCP) under DPH is the lead agency now responsible.

The Massachusetts Low-Level Radioactive Waste Management Act (Chapter 111H, section 7) mandates that each licensee who generates, treats, stores, transports, or disposes of LLRW shall provide detailed information concerning the types, volumes, radioactivity, sources, and characteristics of LLRW produced. The information provided must include:

- Current and projected LLRW management activities
- Source minimization
- Volume minimization and on-site storage
- Treatment, packaging, and transportation practices

DPH conducts an annual survey to determine the characteristics of LLRW generated, stored, and transferred for out-of-state disposal. The less complex 2007 survey differs from pre-1997 Board surveys, because questions on management methods and characteristics, container and packing methods, storage off or on site, routine or non-routine waste, specific out-of-state disposal sites, and future projections were eliminated. A copy of the 2007 survey is shown in figure 29.

This report summarizes data compiled from responses from the 2007 LLRW survey of radioactive material users in Massachusetts. The annual survey is used in connection with the Department of Public Health's activities to arrange storage, treatment, and disposal solutions for LLRW generated and to formulate LLRW policy in the Commonwealth.

Comments on this report and suggestions for future annual reports are welcome. Please send correspondence to:

Department of Public Health
Radiation Control Program
Attn: William Sellers, Jr.
Schrafft Center, Suite 1M2A
529 Main Street
Charlestown, MA 02129

The 2007 LLRW report focuses on the characteristics and management of LLRW in the

Commonwealth. The data collected enables DPH to formulate policy on the storage, treatment, disposal, and other management activities. The annual survey is also used by DPH to determine the following:

- What classes of LLRW with relatively short half-lives may be stored for natural radioactive decay?

- What classes will require disposal?

- What classes will require special management procedures during the life of a disposal facility accepting LLRW in Massachusetts?

Tables and figures in this report present survey responses rounded by standard methods; therefore, totals may not equal 100%.

Chapter 1

Executive Summary

1.1 2007 Survey Results Summary

Waste generators consist of licensees that transfer and/or store Low-Level Radioactive Waste (LLRW). In 2007, Massachusetts licensees generated 190,081 **cubic feet** of low-level radioactive waste (LLRW) containing 13,894 **curies**. Of this volume and activity, 183,621 **cubic feet** containing 412 **curies** were transferred and 6,460 **cubic feet** containing 13,482 **curies** were stored in-state for further treatment and disposal. A total of 56 different isotopes were reported generated with Tritium (H-3) being the most common.

The 2007 volume totals were 81% less than calendar year 2006, while the activity totals decreased by 26%. The reason for the decrease in activity totals is that Entergy Nuclear Generation Company generated significantly less activity. The reduction in volume totals is due to Yankee Atomic Electric Company completing its decommissioning project in 2007.

Massachusetts generators had access to three disposal facilities: Barnwell, South Carolina, Clive, Utah, and Richland, WA (Hanford site).

- Barnwell accepts Class A, B, C and High Volume Low Activity Waste (HVLA), but no waste mixed with, or exhibiting characteristics of, toxic chemical hazardous material (called mixed waste).

- Clive accepts Class A and HVLA.

- Richland accepts waste from naturally-occurring or accelerator-produced radioactive material (NARM).

Since Massachusetts is an **unaffiliated state** and not a member of any of the ten national interstate compacts, generators in Massachusetts can dispose of their LLRW to any licensed facility that is willing to accept it. A national map showing the various compact memberships is shown in figure 1.

The following disposal sites received LLRW from Massachusetts in 2007:

Clive, Utah: 117,717 cubic feet containing 62 curies.
Barnwell, South Carolina: 190 cubic feet containing 123 curies.
Richland, Washington: No shipments.

According to the Manifest Information Management System's website, the highest level of activity was transferred to Barnwell, SC; the highest level of volume was transferred to Clive, UT.

Since the LLRW survey eliminated questions regarding the licensee's future projections, the Department of Public Health estimates that total future annual surveys until 2012 will remain at 80,000 cubic feet and 20,000 curies. These numbers include both LLRW transferred and stored**.**

1.2 Distribution of Large and Small Generators by Transfers

Two hundred and seventy-one facilities transferred LLRW for disposal, which is a decrease of 16% from 2006. Sixty-three out of the 271 facilities shipped 100 cubic feet or less, compared to 17 facilities in 2006. (100 cubic feet is equivalent to just over thirteen 55-gallon drums). Of the 271 organizations, 80 generators shipped one curie or less and can be classified as small activity generators.

Organizations that transferred large amounts of volume and activity are shown in **Tables 1 and 2**. Because the volume of waste transferred does not necessarily correlate with the amount of activity within the transferred waste, the 63 small quantity shippers by volume are not all the same small activity shippers. In addition, the data shows a consistent trend in Massachusetts: the majority of LLRW generators produce small volumes of waste, while only 22 out of the 271 generators produced large volumes (>100 cubic feet) of waste.

Low-level radioactive waste is shipped by the following methods: rail car, truck, or ship. The US Department of Transportation (DOT) has strict packaging requirements for shipping LLRW. There are three types of containers which are classified as either: LSA, Type A, or Type B.

TABLE 1	
LIST OF GENERATORS THAT TRANSFERRED MORE THAN 100 CUBIC FEET OF LLRW IN 2007	
FACILITY NAME	**VOLUME IN CUBIC FEET**
1. Biogen Idec MA, Inc.	151.1
2. Boston University Medical Center Hospital	319.5
3. Charles River Laboratories, Inc.	671
4. Dana-Farber Cancer Institute	350.7
5. Discovery Labware, Inc.	118.3
6. Entergy Nuclear Generating Company	29,600
7. GE Healthcare Bio-Sciences Corp.	152.4
8. Genetics Institute, LLC	421
9. Genzyme Corporation	480
10. Joslin Diabetes Center, Inc.	181.2
11. Lantheus Medical Imaging, Inc.	450
12. Mass. General Hospital	166.8
13. Millennium Pharmaceuticals, Inc.	343.6
14. Molecular Insight Pharmaceuticals, Inc.	146
15. Novartis Institute for Biomedical Research	249.4
16. PerkinElmer Life & Analytical Science	58,168
17. QSA Global, Inc.	135
18. Springborn Smithers Lab, Inc.	212.8

19. Unitech Services Group, Inc.	2,400
20. U.S. Army Corps of Engineers, Shpack Site	86,770
21. Yankee Atomic Electric Company	350
22. University of Massachusetts - Amherst	107.2

One hundred cubic feet of waste per annum is a threshold in Chapter 111H, section 13. Licensees that generate at least 100 cubic feet must implement **a waste minimization plan**. More information is available in DPH Regulatory Guide No. 1.1 Revision 2.0 dated August 1995 and titled: Regulatory Guidance for Low-Level Radioactive Waste Minimization.

TABLE 2

LIST OF GENERATORS THAT TRANSFERRED MORE THAN ONE CURIE OF LLRW	
FACILITY NAME	**ACTIVITY IN CURIES**
1. Communications & Power Indust.	26.213
2. Entergy Nuclear Generating Company	94.80
3. Herley New England	4.50
4. Lantheus Medical Imaging, Inc.	17.304
5. Novartis Inst. for Biomedical Research	163.72
6. PerkinElmer Life & Analytical Science	73.63
7. Siemens Healthcare Diagnostics, Inc.	23
8. US Army Corps of Engineers –Shpack Site	3.340

1.3 Distribution of Large and Small Generators by Storage

In 2007, 89 facilities reported in-state storage of LLRW. Of the 89 facilities, 82 or 92% stored **100 cubic feet or less** and can be classified as Asmall quantity@ storage generators by volume. The largest generators storing more than 100 cubic feet of LLRW is shown in **Table 3**. Because the activity of waste in storage does not necessarily correlate with the amount of volume in storage, the 62 small activity in-state storage generators are not all the same small volume storage generators shippers.

Of the 89 in-state storage generators, 62 or 70% stored less than one curie and can be classified as small quantity storage generators by activity. The largest generators storing more than one curie of waste are shown in **Table 4**.

Typical storage containers include 55 and 30 gallon steel drums and boxes. Other containers used less frequently are small steel pails or cans in the 2 to 5 gallon size, and 9-10 cubic feet fiber drums used as temporary containment vessels prior to processing, such as incineration.

TABLE 3
LIST OF GENERATORS THAT STORED MORE THAN 100 CUBIC

FEET OF LLRW	
FACILITY NAME	**VOLUME IN CUBIC FEET**
1. Areva NP, Inc.	100
2. Brigham & Women's Hospital	112.5
3. Entergy Nuclear Generating Company	1,055
4. Genetics Institute, LLC	461
5. Lantheus Medical Imaging, Inc.	704.7
6. Mass. General Hospital	137.6
7. PerkinElmer Life & Analytical	602.4
8. Unitech Services Group, Inc.	2,000

TABLE 4
LIST OF GENERATORS THAT STORED ONE CURIE OR MORE OF LLRW

FACILITY NAME	ACTIVITY IN CURIES
1. Cubist Pharmaceuticals, Inc.	1.498
2. Entergy Nuclear Generating Company	1.060
3. Novartis Inst. for Biomedical Research	4.030
4. PerkinElmer Life & Analytical	350.300
5. QSA Global, Inc.	13,118.623
6. Radiation Monitoring Device, Inc.	1.0
7. Thermo Niton Analyzers LLC	1.601

1.4 Distribution of Isotopes Generated for All Classes of Waste

Fifty-seven (57) different isotopes were reported in waste generated by licensees, which represents no change from year 2006. The survey requested that responders only report those isotopes with a half life greater than 120 days, and this excludes most medical isotopes – e.g. I-125 and P-32. However, all principal isotopes listed were grouped together with other isotopes on the survey report in terms of volume and activity.

The least reported isotopes were: Ir-192, Th-232, Tc-99, Na-22, Fe-59, Eu-155, Eu-154, Eu-152, Pb-210, W-188, U-235, U-234, U-232, Ag-110m, Th-227, Au-198, Ta-182, Si-32, Se-75, In-111, Pm-147, Np-237, Y-90, Cl-36, Ag-108m, I-131, I-123, Ge-68, Co-56, Eu-156, Co-58, and Po-210.

TABLE 5
THE MOST COMMON ISOTOPES REPORTED TRANSFERRED OR STORED IN 2007

ISOTOPE	HALF LIFE	NUMBER OF FACILITIES
1. H-3	12.3 years	97
2. C-14	5,730 years	69
3. I-125	60.1 days	17
4. S-35	87.5 days	15
5. P-32	14.3 days	12
6. Cs-137	30.2 years	16
7. P-33	25 days	10
8. Fe-55	2.7 years	11
9. Co-60	5.3 years	11
10. Co-57	271.8 days	13

1.5 Distribution of Isotopes Transferred for All Classes of Waste

Forty-six (46) different isotopes were reported transferred, which is a decrease of 8 from 2006. The totals transferred and stored do not necessarily add up to the totals generated, since some licensees transfer and store the same isotope, while others either store or transfer the same isotope, but not both.

The least reported isotopes transferred were: Ir-192, Co-56, Cs-134, Eu-152, Eu-154, Eu-155, Eu-156, Fe-59, Ge-68, I-123, Au-198, In-111, Y-90, Mn-54, Np-237, Pm-147, Si-32, Ta-182, Th-227, U-234, U-235, W-188, I-131, Tc-99, Th-232, and Cr-51. They are not listed in Figure 26.

TABLE 6
LIST OF 10 MOST COMMON ISOTOPES REPORTED TRANSFERRED IN 2007

Isotope	Half Life	Number of Facilities
1. H-3	12.3 years	73
2. C-14	5,730 years	56
3. I-125	60.1 days	13
4. Cs-137	30.2 years	12
5. U-238	4.5 billion years	8
6. Co-60	5.3 years	9
7. S-35	87.5 days	10
8. Co-57	271.8 days	7
9. Fe-55	2.7 years	6
10. Sr-90	28.5 years	7

1.6 Isotopes In-Storage for All Classes of Waste

Forty-two (42) different isotopes were reported in storage or stored by licensees, which is an increase of five from 2006. The totals transferred and stored do not necessarily add up to the totals generated since some licensees transfer and store the same isotope, while others either store or transfer the same isotope, but not both.

The least reported isotopes were: Gd-153, Ag-110m, Ba-133, Cl-36, Co-56, Co-58, Ag-108m, Fe-59, W-188, I-129, Se-75, Pb-210, Po-210, Ra-226, U-232, Ta-182, Eu-156, U-238, Am-241, Sr-90, Eu-152, Ir-192, Eu-154, Eu-155, Na-22, and Cs-134.

Table 7 shows the most common isotopes by frequency in storage for all classes of waste.

TABLE 7		
THE MOST COMMON ISOTOPES REPORTED STORED IN 2007		
ISOTOPE	HALF LIFE	NUMBER OF FACILITIES

1. H-3	12.3 years	75
2. C-14	5,730 years	51
3. S-35	87.5 days	10
4. P-32	14.3 days	10
5. I-125	60.1 days	10
6. P-33	25 days	9
7. Fe-55	2.7 years	9
8. Co-57	271.8 days	8
9. Zn-65	244.1 days	7
10. Cs-137	30.2 years	6

1.7 Isotopes Generated for Class A Waste

Fifty-four (54) different isotopes were reported in waste generated by licensees, which is a decrease of two or 4% from 2006. Figure 21 shows the total RAM reporting frequency for Class A waste. The three most common reported isotopes were: H-3, C-14, and I-125. The least reported isotopes were: Np-237, Ag-110m, Au-198, Cl-36, Co-56, Co-58, Eu-156, Ge-68, I-123, I-131, Ag-108m, Ir-192, Y-90, Pb-210, Pm-147, Po-210, Se-75, Si-32, Ta-182, Th-227, U-232, W-188, and In-111.

1.8 Isotopes Generated for Class B Waste

Five (5) different isotopes were reported in waste generated by licensees, which is a decrease of two or 29% from 2006. Figure 22 shows the total RAM reporting frequency for Class B waste. The most common reported isotopes were: Sr-90, P-32, Ir-192, H-3, and Cs-137.

1.9 Isotopes Generated for Class C Waste

Six (6) different isotopes were reported in waste generated by licensees, which is the same from 2006. Figure 23 shows the total RAM reporting frequency for Class C waste. The six most common reported isotopes were: Zn-65, Sr-90, H-3, Co-60, Cs-137, and C-14.

1.10 Isotopes Generated for Class HVLA Waste

Fourteen (14) different isotopes were reported in waste generated by licensees, which is a decrease of three or 18% from 2006. The decrease in HVLA is partly due to Yankee Atomic Electric Company (Yankee Rowe) completing their decommissioning project in 2007. Figure 24 shows the total RAM reporting frequency for Class HVLA waste. The two most common reported isotopes were: H-3 and C-14.

Chapter 2
2007 LLRW Management Data Summary

2.1 Sources and Types of LLRW

Low-level radioactive waste (LLRW) is radioactive material that (1) is neither high-level radioactive waste, nor spent fuel, nor uranium mill tailings; and (2) is classified by the U.S. Nuclear Regulatory Commission (NRC) as LLRW. It does not include waste which remains a federal responsibility, such as that owned or generated by the U.S. Department of Energy, the U.S. Navy as a result of decommissioning Navy vessels, or by the federal government as a result of any research, development, testing, or production of any atomic weapon.

LLRW is generated as a by-product of various uses of isotopes. Typical applications include:

(1) The production of electricity by a nuclear power plant.

(2) The production and end-use of radiopharmaceuticals for medical procedures – e.g. cancer and thyroid dysfunction diagnosis and treatment, radioimmunoassay, and diagnostic imaging examinations.

(3) Research and development in the life science and biotechnology industry for the treatment and prevention of various diseases and medical dysfunctions, and in the environmental field to study the effects of chemicals on plant and aquatic life, and for ocean studies.

(4) Commercial uses such as within instruments that measure level, thickness, and density or that are used in moisture analysis and quality control; sealed sources that are used for industrial radiography of pressure vessels and other structural welds; smoke detectors and exit signs in buildings and commercial aircraft.

(5) University education and research in medicine, material science, and biotechnology.

2.2 Regulations Pertaining to Radioactive Materials Licensees

On March 21, 1997, Massachusetts became an **Agreement State** with the NRC. Under the agreement, the NRC transferred to the Commonwealth the responsibility for regulating the use of (1) radioactive materials produced as byproducts of the operation of nuclear reactors; (2) uranium and thorium source materials; and (3) small quantities of fissionable materials. The Nuclear Regulatory Commission retains jurisdiction over regulation of nuclear reactors, federal agencies that use nuclear materials and companies that distribute certain materials (e.g. smoke detectors) to the public.

Massachusetts radioactive material licensees are regulated by the DPH Radiation Control Program under 105 Code of Massachusetts Regulations (CMR) 120.000: Massachusetts Regulations for the Control of Radiation; and 345 CMR Low-Level Radioactive Waste Management Board as amended. Licensees remaining under the jurisdiction of the NRC are regulated under Title 10 of the Code of Federal Regulations (CFR).

2.3 LLRW Generator Categories

Four hundred and ninety-seven colleges and universities, hospitals, government agencies, biotechnology firms, and other businesses, including two nuclear power plants (one operational and another undergoing decommissioning) held radioactive material licenses**.** This is a decrease of ten or 2% from 2006.

The information in this report is grouped by waste generator category:

(1) **Academic** - universities, colleges, and other research institutions.

(2) **Commercial** - organizations such as biotechnology, engineering, construction companies, testing laboratories, radiopharmaceutical manufacturers and suppliers, and companies using radioactive material for process, quality control, and analysis (also referred to as **industry** by Department of Energy (DOE).

(3) **Government** - local, state, and federal entities (Federal does not include DOE, US Navy, or atomic weapon productions; the state does not include universities and colleges).

(4) **Health** - hospitals, clinics, and physicians (also referred to as **medical** by DOE).

(5) **Utility** - companies that operate or are decommissioning nuclear power plants.

The categories listed above are convenient for data analysis, but there is an inherent interrelationship among them.

Figures 10-17 show the volume and activity results for the five waste generator categories according to survey results. The Government category leads the group as top volume generator from figures 14 and 17, while the Commercial category is the top activity generator as shown in figures 10 and 13. In storage activity and storage volume, the Commercial category leads the group according to figures 11 and 15. In transferred activity, the Commercial category leads the group in figure 12, while in transferred volume the Government category is the leader as shown in figure 16.

2.4 Waste Classification System

Five classes of waste are defined by federal regulations 10 CFR 61 and Massachusetts regulations 105 CMR 120.299, Appendix E. The MA regulations are on the Radiation Control Program's website: www.mass.gov/dph/rcp.

Class A waste is characterized by its low concentrations of long lived isotopes and concentrations of short-lived isotopes that will decay to acceptable levels within a 100-year institutional control period when a disposal facility is actively maintained after closure. These concentration limits have been calculated on the basis of dose limits to an individual who might inadvertently intrude, occupy the disposal site, and encounter waste after this time.

Class B waste is the next level of waste that could represent a potential hazard to an inadvertent intruder, without additional protective measures, since they contain higher concentrations of short-lived and long lived radionuclides. They must meet the NRC's minimum stability requirements so that the waste forms or containers can maintain gross physical properties and identity, over 300 years, thus, limiting the exposure to a potential intruder.

Class C waste is waste that, due to their greater concentrations of long-lived or short-lived radionuclides, must meet more stringent waste form requirements to ensure stability, and must be disposed of in such a way as to protect the inadvertent intruder for a longer period of time. The waste must meet the stability requirements for form or container (300 years) and must be disposed of in a manner which protects against inadvertent intrusion for at least 500 years.

Greater than Class C (GTCC) waste is waste that contains larger concentrations of radionuclides that are unacceptable for near surface land disposal, unlike classes A, B and C. GTCC disposal remains the responsibility of the federal government and their present strategy is deep geological disposal. GTCC is not LLRW.

High Volume Low Activity Waste (HVLA) are soils or demolition rubble that have average concentrations less than or equal to the concentrations set forth in 345 CMR 1.13, Table 1.13B and have been accepted for disposal at a licensed LLRW disposal facility. HVLA is considered as Class A waste, but treated separately in Massachusetts so as to allow some licensees a reduced annual LLRW fee of 10% of the proportional assessment.

Figures 2-9 and Table 8 shows the volume and activity results for the five various waste classes. In terms of volume, Class A waste was the biggest class in storage, while HVLA waste was the most transferred class. In terms of activity, Class B was the biggest class in storage, while Class A was the most transferred class.

Some of the licensees generated more than one class of waste, so the totals may not equal 100%.

2.5 LLRW Management Method Terms

LLRW management refers to the storage, packing, treatment, transportation, or disposal of LLRW. Some of the terms used in past surveys were:

- **Incineration for disposal** - refers to procedure where LLRW, such as animal carcasses and liquid scintillation fluids, are incinerated per 10 CFR 20 which limits specific activity

of waste to 0.05 microcuries of Hydrogen-3 (Tritium) or Carbon-14 (C-14), per gram of material.

- **Mixed waste storage** - radioactive material contaminated by chemical or toxic material. Past surveys classified such waste with the addition of the letter AH@ after classification letter A, B, C, or HVLA (i.e., Class AH, Class BH, etc.).

- **Shipped for disposal** - refers to LLRW delivered directly or via a processor, to one of three NRC-licensed disposal facilities located in SC, UT, and WA.

- **Storage** - refers to LLRW that was generated during the survey year or prior years and that was held in storage. The waste may undergo additional radioactive decay prior to final packaging for disposal, and reported volume and activity may not reflect actual disposal properties.

- **Storage for decay** - refers to procedure in which LLRW with a relatively short half-life is held for natural radioactive decay (at least 10 half-lives). Storage for decay is a common practice.

- **Transfer to an authorized recipient** - refers to transfer of radioactive material for disposal or recycling to another licensee, such as sealed sources returned to the supplier since the energy being emitted is no longer useful.

- **Volume reduction** - refers to negative change in LLRW volume from sorting and segregating (the separation of the non-radioactive from the radioactive portion), compaction, incineration, and decontamination.

The LLRW survey does not ask the licensee which management method(s) were used as past pre-2001 surveys did.

2.6 LLRW Survey Results

The 2007 LLRW survey requested data on waste produced or retained in storage from previous years. The survey was mailed in January 2008 to 497 licensees. A total of 494 or 99% of licensees returned the 2007 survey. In 2006, DPH had a 100% return rate.

Licensees that did not return the form were evaluated by DPH to determine if they typically generate LLRW. Most non-respondents were identified as licensees that manage by storage for decay, or transfer sealed sources to an authorized recipient, or do not generate any LLRW.

Table 8 shows that 107 licensees (22%) out of the 494 reported producing LLRW for transfer or in storage. The remainder used sealed sources or did not generate any long lived (half-life greater than 120 days) LLRW during 2007.
.

Table 8 - Activity and Volume Summary:

- 190,080.77 cubic feet of LLRW containing 13,894.33 curies were generated.
- Class A: 285.56 curies.
- Class B: 13,495.23 curies.
- Class C: 109.94 curies.
- HVLA: 3.61 curies.
- Class A: 44,741.93 cubic feet.
- Class B: 185.63 cubic feet.
- Class C: 352.50 cubic feet.
- HVLA: 144,800.72 cubic feet.
- 183,620.95 cubic feet containing 412.26 curies of LLRW were transferred to licensed brokers or disposal sites for disposal.
- 6,459.83 cubic feet containing 13,482.05 curies of LLRW were placed in storage in Massachusetts.

TABLE 8

Activity and Volume by Class for the Year: 2007

Class	*No. submitted in the class*	*Activity (curies)*			*Volume (cu. ft)*		
		In Storage	*Transferred*	*TOTAL*	*In Storage*	*Transferred*	*TOTAL*
A	112	20.92	264.63	285.56	6,207.50	38,534.43	44,741.93
B	5	13,451.13	44.10	13,495.23	114.23	71.40	185.63
C	3	10.00	99.94	109.94	7.50	345.00	352.50
HVLA	8	0.01	3.60	3.61	130.60	144,670.12	144,800.72
Grand Totals:	**128**	**13,482.05**	**412.26**	**13,894.33**	**6,459.83**	**183,620.95**	**190,080.77**

Total number of surveys submitted for 2007: **494**

Number without Any Waste Generation for 2007 **387**

Number with Waste Generation for 2007: **107**

Note: Some licensees generated more than one class, and totals may not equal 100%.

2.7 MA Historic and Current Annual Transfer Disposal Rate Results

Figure 18 shows the total volume transferred from 2003-2007:

CY 2003: 127,263
CY 2004: 222,996
CY 2005: 563,726
CY 2006: 973,628
CY 2007: 183,621

The transferred volume for 2007 decreased by 81% due to the conclusion of Yankee Rowe's decommissioning project. Yankee Rowe's website states, "Physical decommissioning of the former Yankee Rowe plant was completed in 2007. The U.S. Nuclear Regulatory Commission (NRC) notified Yankee in August 2007 that the former plant site had been fully decommissioned in accordance with NRC procedures and regulations and formally approved Yankee Atomic's Final Status Survey Reports in accordance with the License Termination Plan…….". Source: http://www.yankeerowe.com/.

The present survey does not distinguish between **routine** and **non-routine** LLRW shipped for disposal. Routine refers to LLRW from process operations that are expected to be generated annually for the foreseeable future. Non-routine refers to LLRW from one time decommissioning or site remediation projects. A non-routine example is a decommissioning project at the former nuclear power plant operated by Yankee Atomic Electric Company in Rowe, MA, and one for site remediation is Starmet NMI (formerly Nuclear Metals, Inc.) in Concord, MA.

Figure 19 shows the total activity transferred from 2003-2007. The amount of activity transferred varies from one year to another.

Chapter 3

NATIONAL DATA

3.1 State-by-State Comparison

Table 9 shows how Massachusetts LLRW volume and activity shipped for disposal compared to other states in 2007.

According to the Manifest Information Management System (MIMS) (no data for Montana, Puerto Rico, and Wyoming), California ranked **# 1** in terms of volume generated (Tennessee was ranked at # 2) and Pennsylvania was largest in terms of activity generated. MIMS is operated by the US Department of Energy, and does not assure quality of information. The totals reported do not agree exactly with LLRW survey results.

TABLE 9

2007 LLRW VOLUME AND ACTIVITY SUMMARY FROM ALL STATES FROM MIMS

Year Received	State	Volume (ft3)	Activity (curies)
2007	Alabama	60,194.81	110,324.62
2007	Alaska	2.81	0.05
2007	Arizona	28,766.29	763.69
2007	Arkansas	53,493.58	132.16
2007	California	926,604.27	2,794.88
2007	Colorado	395.89	405.18
2007	Connecticut	36,862.53	322.16
2007	Delaware	42.73	12.86
2007	District of Columbia	374.34	0.17
2007	Florida	57,391.64	1,351.44
2007	Georgia	9,408.46	33,604.72
2007	Hawaii	3,688.48	52.52
2007	Idaho	254.72	29.53
2007	Illinois	171,936.37	163,034.08
2007	Indiana	450.80	0.55
2007	Iowa	10,791.12	110.00
2007	Kansas	900.35	170.54
2007	Kentucky	107,097.85	25.16
2007	Louisiana	16,744.32	2,847.80
2007	Maine	176.84	39.76

2007	Maryland	21,016.06	25,304.54
2007	**Massachusetts**	**132,458.82**	**184.97**
2007	Michigan	87,137.07	1,416.85
2007	Minnesota	8,525.20	264.47
2007	Mississippi	9,972.76	58,122.21
2007	Missouri	13,406.41	166.51
2007	Nebraska	10,383.49	989.33
2007	Nevada	125.07	0.16
2007	New Hampshire	3,211.48	43.56
2007	New Jersey	47,136.13	51,747.98
2007	New Mexico	112.36	0.06
2007	New York	46,352.61	50,963.09
2007	North Carolina	81,700.94	48,141.43
2007	North Dakota	15.55	0.00
2007	Ohio	21,309.73	39,997.38
2007	Oklahoma	5.60	0.64
2007	Oregon	608.56	6.95
2007	Pennsylvania	78,454.53	492,579.18
2007	Rhode Island	10.02	1.22
2007	South Carolina	84,019.10	1,307.36
2007	South Dakota	196.13	0.00
2007	Tennessee	259,112.38	1,100.74
2007	Texas	69,758.55	1,068.83
2007	Utah	541.36	0.33
2007	Vermont	8,692.10	642.73
2007	Virginia	45,911.74	578.67
2007	Washington	94,027.71	13,211.60
2007	West Virginia	48.69	0.14
2007	Wisconsin	17,302.73	9,958.02
	Total:	**2,627,131.10**	**1,113,820.85**

ND = No Data Available

** Totals include high volume low activity (HVLA) waste shipped out-of-state**

3.2 Manifest Information Management System (MIMS)

The Manifest Information Management System (MIMS) provides information on waste shipments to three disposal facilities: Barnwell, SC, Clive, UT, and Richland, WA. The Barnwell, SC site is operated by Chem-Nuclear, LLC; the Clive, UT site is operated by Energy Solutions; and, the Richland, WA site is operated by US Ecology, Inc. The Richland, WA facility is located within the United States Department of Energy's (USDOE) Hanford site.

According to MIMS, 30,742,208.58 million cubic feet containing 6,682,015.69 million curies of radioactivity were disposed from 1997 to 2007. The majority of waste activity (95%) came from nuclear facilities (utility), while 32% came from waste volume. During the same time period, Massachusetts licensees generated 2,141,865.11 million cubic feet containing 126,092.42 curies.

MIMS provides a comparison of the waste generated as reported by the 3 commercial waste disposal sites including the LLRW survey results. However, there are discrepancies with the data reported by MIMS and the LLRW survey. Differences cannot be readily explained, but possible explanations are:

1. LLRW is shipped to the generator's home office out-of-state and is combined with LLRW from other sites. This total is then reported to MIMS.

2. LLRW undergoes a degree of compaction or volume reduction. One utility reports that its waste is shipped to a broker out-of-state where waste is segregated (free release) in order to reduce burial volume. The compaction method is by a glass melting process.

3. Generators estimating the volume of transferred LLRW. The actual volume is inflated by shipping container and packing which is later removed by broker.

4. Some waste held for convenience and deferred expenditures by broker or others, and sometimes for years.

5. Federal LLRW generators located in MA (e.g. - US Food & Drug Administration) do not report to MDPH on waste activities, but are reported by the waste disposal sites.

6. Some waste may be reported shipped during the reporting year, but arrived at the disposal facility after December 31st, thus being counted for the following year by the disposal site. In fact, the waste should be reported as disposed in the year that it arrives at the disposal site, not the year it was transferred or shipped.

TABLE 10

COMPARISONS OF LLRW TRANSFERRED FROM MASSACHUSETTS FOR 2007

	Richland, WA (Hanford)	Barnwell, SC	Clive, UT	Total from MIMS Database	DPH Database as entered and shown in tables and graphs
Volume, CF	0.000	190.41	132,268.41	132,458.82	183,620.95
Activity, Curies	0.000	122.76	62.22	184.97	412.26

*Hanford last received LLRW from MA generators in 1992.

*Barnwell reported that Massachusetts generators shipped 190.41 cubic feet of LLRW totaling 122.76 curies, making the average concentration of 0.64 curie per cubic foot of waste. Clive, UT received 132,268.41 cubic feet with 62.22 curies or 0.0005 curie per cubic foot.

TABLE 11

MASSACHUSETTS 2007 WASTE GENERATOR CATEGORY RESULTS FROM MIMS

Generator Class	**Volume Transferred (Cubic Feet)**	**Activity Transferred (Curies)**
Academic	0.58	0.00
Government	86,761	5.57
Industry	16,044.99	69.17
Medical	29,237.92	0.51
Undefined	310.39	48.69
Utility	103.94	61.03
Totals	132,458.82	184.97

TABLE 12
MA WASTE CLASSIFICATION AND GENERATOR CLASS FOR 2007 FROM MIMS

Disposal Site	Year Received	Generator Class	Total Volume(cf)	Total Activity (curies)	Class A Volume (cf)	Class B Volume (cf)	Class C Volume (cf)
Barnwell, SC	2007	Medical	1.92	0.33	0.00	0.00	1.92
Barnwell, SC	2007	Utility	103.94	61.03	11.75	19.76	72.43
Barnwell, SC	2007	Academic	0.58	0.00	0.00	0.00	0.58
Barnwell, SC	2007	Industry	83.97	61.40	0.00	71.40	12.57
Clive, UT	2007	Medical	29,236.00	0.18	29,236.00	0.00	0.00
Clive, UT	2007	Undefined	310.39	48.69	310.39	0.00	0.00
Clive, UT	2007	Industry	15,961.02	7.77	15,961.02	0.00	0.00
Clive, UT	2007	Government	86,761.00	5.57	86,761.00	0.00	0.00
		Total:	132,458.82	184.97	132,280.16	91.16	87.50

According to MIMS, Barnwell received a total of 27 shipments (12 utility, 11 industry, 2 medical, and 2 academic), and Clive received a total of 356 shipments (170 industry, 147 government, 13 undefined, and 26 medical) from Massachusetts generators.

3.3 National Regulatory History for LLRW

1980s

In 1980, the United States Congress passed the Low-Level Radioactive Waste Policy Act (P.L. 96-573).

The Act established three major policies:

1. Each state is responsible for the LLRW generated within its boundaries.

2. States may form compacts (or groups of states) to facilitate managing LLRW generated within the boundaries of the compact states.

3. Compacts could not refuse waste from other states until U.S. Congress had ratified the compact.

On January 1, 1986, the Low Level Radioactive Waste Policy Amendments Act (P.L.99-240) was signed into law, making a generator's continued access to the three operating disposal sites contingent on its compact meeting specified milestones for new site development. The amended act clarified Congress's intent to require compacts (or individual states not within a compact) to provide disposal capacity for LLRW generated within its boundaries by January 1, 1993.

The chief mandate of these federal statues requires each state to provide for its LLRW disposal by January 1, 1996. If a state fails to do this by this date, it must assume ownership and liability for all LLRW produced within its borders after 1996.

In response to the federal laws, Massachusetts enacted MGL Chapter 111H in 1987. This 48 section general law, as amended in 2002, authorizes the Department of Public Health to regulate the management of low-level radioactive waste. Complete copies of the general law are available on the Commonwealth of Massachusetts website:

http://www.mass.gov/legis/laws/mgl/gl-111h-toc.htm

Effective June 26, 1986, in response to the Low Level Radioactive Waste Policy Amendments Act, Rhode Island created the Rhode Island-Massachusetts Interstate Low-Level Radioactive Waste Management Compact. The compact is referred to as Title 23 Health and Safety Chapter 23-19.9 Low-Level Radioactive Waste Compact. However, it should be noted that neither Massachusetts nor any other state ever approved or joined the compact. More information is available at the following State of Rhode Island link:

http://www.rilin.state.ri.us/Statutes/TITLE23/23-19.9/INDEX.HTM

1990s

In early 1990s, the 9 member Massachusetts Low Level Radioactive Waste Management Board was established to manage LLRW and to investigate whether a LLRW disposal site would be located in Massachusetts. In March 1996, the Board voted **not** to locate a LLRW disposal site in Massachusetts as three disposal sites (SC, WA, and UT) were available to Massachusetts generators.

Present

In 2002, the Board was abolished by the Legislature and its powers and duties were transferred to the Department of Public Health. Massachusetts remains an unaffiliated state and is not a member of any of the ten state LLRW compacts. The other unaffiliated states are: District of Columbia, Maine, Michigan, Nebraska, New Hampshire, New York, North Carolina, Puerto Rico, and Rhode Island.

Figure 1 shows the Low-Level Radioactive Disposal Compact Membership, including the District of Columbia and Puerto Rico. Membership changes do occur, as Maine recently left the Texas Compact.

Future

Barnwell will accept LLRW through brokers or processors or directly from generators until June 30, 2008. Effective July 1, 2008, Barnwell will accept LLRW from Atlantic Compact members only (formerly the Northeast Compact): Connecticut, New Jersey, and South Carolina. There is no immediate crisis to Massachusetts licensees as small amounts of Class B and C waste may be stored on site. However, a solution must be found for the disposal of these classes of waste. If Massachusetts were to join a compact, it would be required to become a host state.

Clive continues to accept Class A LLRW from all states. However, there are exceptions to this policy: members of the Northwest Compact are not permitted to dispose of waste at Clive. The Northwest Compact currently has access to the Richland (Hanford) site in the State of Washington.

Richland (Hanford) does not accept Class A, B, C, or HVLA from Massachusetts generators, but they will accept NARM and NORM waste from all 50 states. Richland only serves the Rocky Mountain and Northwest Compact

members.

Texas recently passed legislation to allow the creation of two privately run LLRW disposal facilities to be licensed as one site by the state. On December 29, 2003, Texas opened up the process to accept applications from July 8-August 6, 2004 from any interested parties. One site may dispose of federal facility waste and the other site may dispose of commercial low-level radioactive waste generated within the Texas Compact. Texas is a host state to the Texas Compact of which Vermont is a member.

The Executive Director of the Texas Commission on Environmental Quality (TCEQ) directed staff to conduct a Technical Review on the application submitted on August 4, 2004 by Waste Control Specialists, LLC (WCS) for license authorization for the near-surface disposal of low-level radioactive waste at the company's site in Andrews County, Texas, which is near the New Mexico border.

After the technical review of WCS' application is completed, a Notice of the Completion of Technical Review will be published and distributed. It was declared administratively complete as of February 18, 2005. It is available on the internet at:

http://www.wcstexas.com/

http://64.224.191.188/wcs/

Chapter 428 of the MA Acts of 1993 was approved on January 11, 1994 and states in part:

The state treasurer, upon request of the Governor, may issue and sell bonds up to $45 million for a maximum term of 20 years for the purpose of siting LLRW storage, treatment, or disposal facilities. This bond authorization which expires in 2018 could be used to join a compact.

New generator’s fees called reimbursement surcharges would be needed to retire the Commonwealth’s bonds including interest charges.

The Low Level Radioactive Waste Bond Authorization was originally filed as House Bill no. 5655 in 1993 regular session. A complete copy of the Act is available at: Commonwealth of MA State Library 442 State House Boston, MA 02133 or by an e-mail request to: reference.department@state.ma.us.

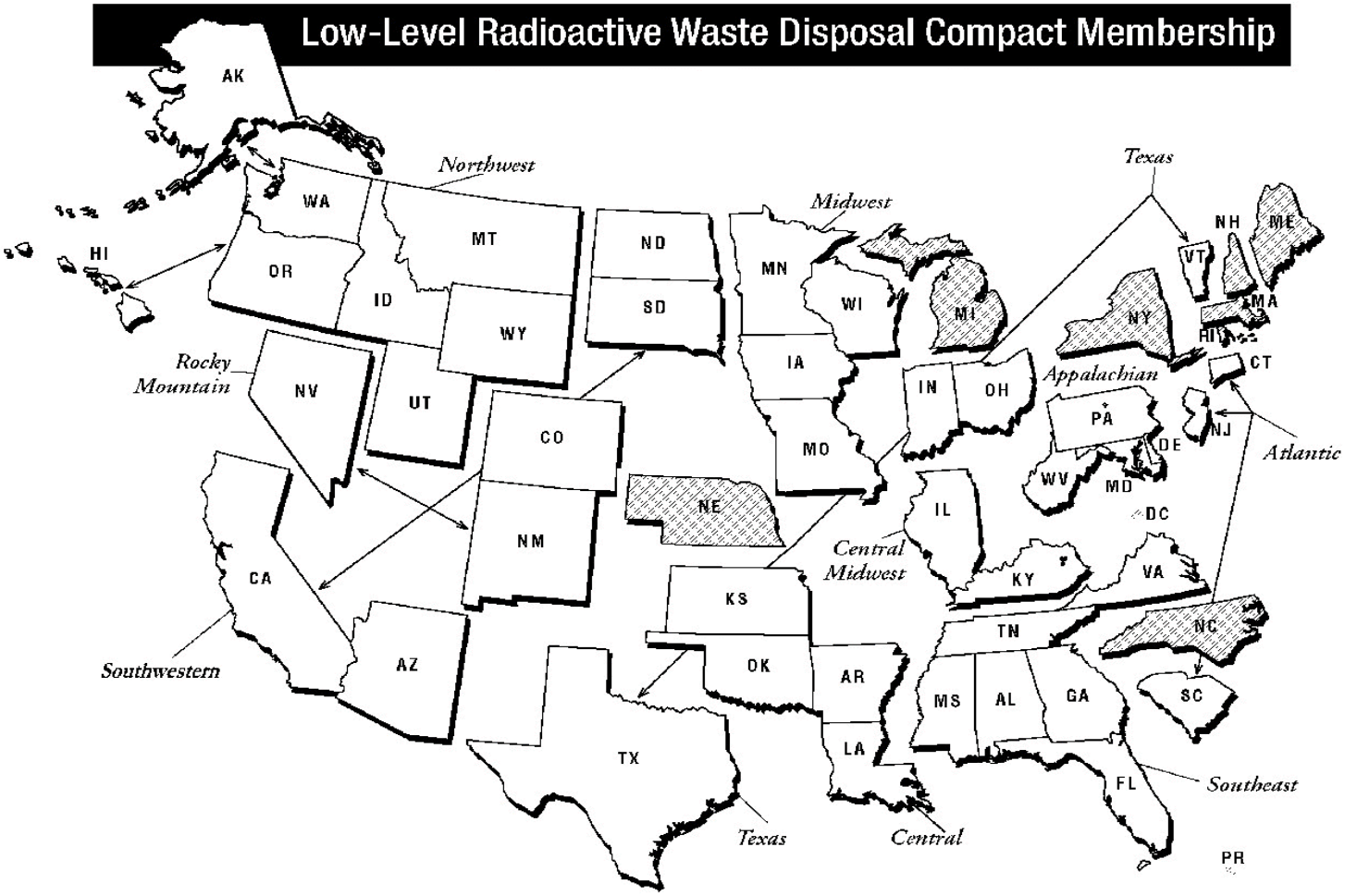
3.4 INTERREGIONAL COOPERATION

The Department of Public Health is an active member with the Low-Level Radioactive Waste Forum, Inc. (LLW Forum). The LLW Forum website is www.llwforum.org.

The LLW Forum is a national association of representatives of compacts, host states, unaffiliated states, and states with currently operating disposal facilities and established to facilitate the implementation of the 1985 Low-Level Radioactive Waste Policy Amendments Act. The LLW Forum provides an opportunity for states and compacts to share information and exchange views with officials of federal agencies and other interested parties. LLW Forum participants also serve as liaisons to other entities, including the Conference of Radiation Control Program Directors, the Conference of State Legislatures, and the federal Facility Compliance Act Task Force. Massachusetts is represented on the LLW Forum by Robert Walker and William Sellers, Jr.

FIGURE 1

Produced by LLW Forum, Inc. – June 2005



Appalachian Compact
Delaware
Maryland
Pennsylvania
West Virginia

Atlantic Compact
Connecticut
New Jersey
South Carolina

Central Compact
Arkansas
Kansas
Louisiana
Oklahoma

Central Midwest Compact
Illinois
Kentucky

Northwest Compact
Alaska
Hawaii
Idaho
Montana
Oregon
Utah
Washington
Wyoming

Midwest Compact
Indiana
Iowa
Minnesota
Missouri
Ohio
Wisconsin

Rocky Mountain Compact
Colorado
Nevada
New Mexico

Nothwest accepts Rocky Mountain waste as agreed between compacts

Southeast Compact
Alabama
Florida
Georgia
Mississippi
Tennessee
Virginia

Southwestern Compact
Arizona
California
North Dakota
South Dakota

Texas Compact
Texas
Vermont

Unaffiliated States
District of Columbia
Maine
Massachusetts
Michigan
Nebraska
New Hampshire
New York
North Carolina
Puerto Rico
Rhode Island

Chapter 4

Financial Data

4.1 Financing LLRW Management

Funds to manage the requirements of MGL Chapter 111H (Massachusetts Low-Level Radioactive Waste Management Act), as amended, require the assessment of an annual fee. Pursuant to MGL Chapter 111H, section 4A, "….the board shall annually assess each person licensed or registered to receive, possess, use, transfer or acquire radioactive materials in the Commonwealth, amounts sufficient to defray the costs annually incurred by the board for such purposes." A total of 438 licensees were assessed $151,620.06 in July 2008 (using the same rates as the Board last used in 2001) for calendar year 2007. The number of licensees invoiced does not include terminated licensees or licensees that could not be located.

As of December 11, 2008, DPH has collected $142,858.83 in LLRW assessments for calendar year 2007. The fees are deposited into the state LLRW rebate trust fund. Any unpaid assessments are charged interest at 12% annually on and after the due date, which is 90 days from the invoice date. After 180 days any outstanding fee users are issued a collection letter and subject to intercept of any state payments or tax refunds.

Cities and towns are exempt from the annual LLRW fees per MGL Chapter 29, section 27C, but must still submit the annual LLRW survey when requested. Eight municipal licensees are in this category.

The flat assessment charged to all licensees and registrants is $75.00 per year and remains unchanged. In addition, a proportional assessment of $1.96 per cubic foot of the weighted volume is calculated for some licensees or registrants pursuant to 345 CMR 4.03(2)(c)3 and an additional assessment of $0.20 per cubic foot of the weighted volume of high volume, low activity waste is calculated for some licensees or registrants pursuant to 345 CMR 4.03(2)(c)4.

The total LLRW annual fee charged is based on billing formula:

$ LLRW ANNUAL FEE = $75.00 + (CRF (PF) (CA + 3CB +5CC)) + ((HVLA (0.1) (PF))

PF is proportional fee or the proportional assessment currently set at $1.96 per cubic foot of waste. The PF figure formerly was much higher and has decreased over time. The PF amount and $75.00 minimum amount remain unchanged since 2001.

CRF is classification radioactivity factor varying between 1.0 - 1.3 as shown in **Table 13**.

CA = Class A LLRW waste volume in cubic feet

CB = Class B LLRW waste volume in cubic feet

CC = Class C LLRW waste volume in cubic feet

PF = Proportional assessment set at $1.96 per cubic feet of weighted volume of waste per DPH

HVLA = HVLA waste volume in cubic feet

Table 13	
Classification of Radioactivity Factor (CRF) 345 CMR Table 4.03 B	
Radioactivity of Waste Shipped for Disposal Off Site or Stored for Later Disposal	**Classification of Radioactivity Factor (CRF)**
less than 1.0 curie per year	1.0
1.0 curie per year or more, but less than 10.0 curies per year	1.1
10.0 curies per year or more, but less than 100.0 curies per year	1.2
100.0 curies per year or more	1.3

Summary: The billing invoice amount is a function of volume, class, and activity of waste generated per year (except cities and towns) with a $75.00 minimum LLRW fee. The higher the volume and activity and class of LLRW generated, the higher the annual fee payable.

4.2 DOE FUNDING

No funding from the U.S. Department of Energy (DOE) was received in 2007 pursuant to the federal Low-Level Radioactive Waste Policy Act, as amended (P.L. 99-240). These funds were collected by certain LLRW disposal sites as a surcharge to use these disposal sites. The funds are held by DOE, and rebated to various states based upon their success in meeting milestones outlined in federal law. Since Massachusetts ceased its disposal siting activities in 1996 and remains an unaffiliated disposal state, no funds were received in 2007.

APPENDIX A

FIGURE 2

PERCENT OF TOTAL ACTIVITY BY WASTE CLASS FOR 2007

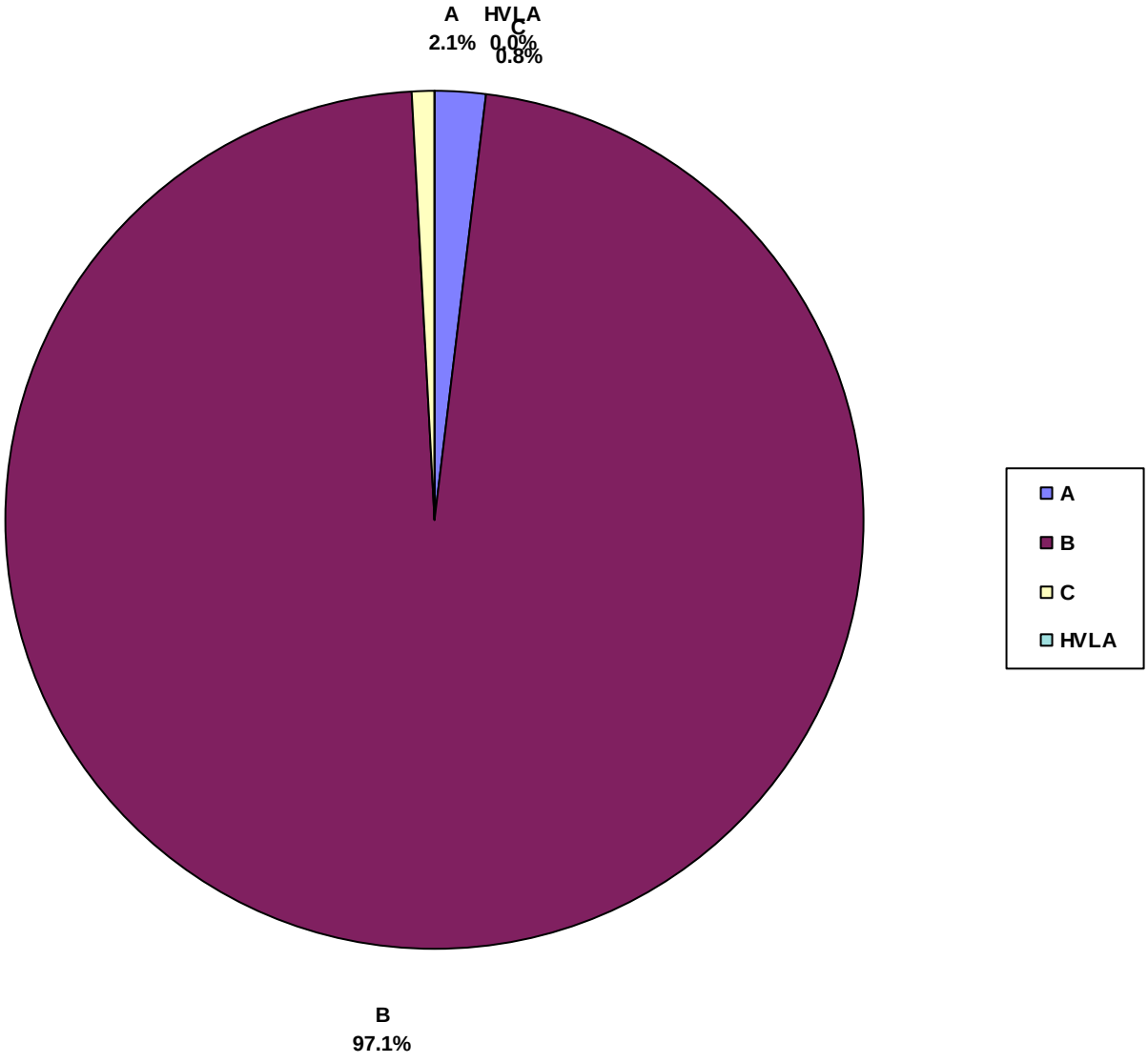


FIGURE 3

PERCENT OF ACTIVITY PLACED IN STORAGE BY WASTE CLASS FOR 2007

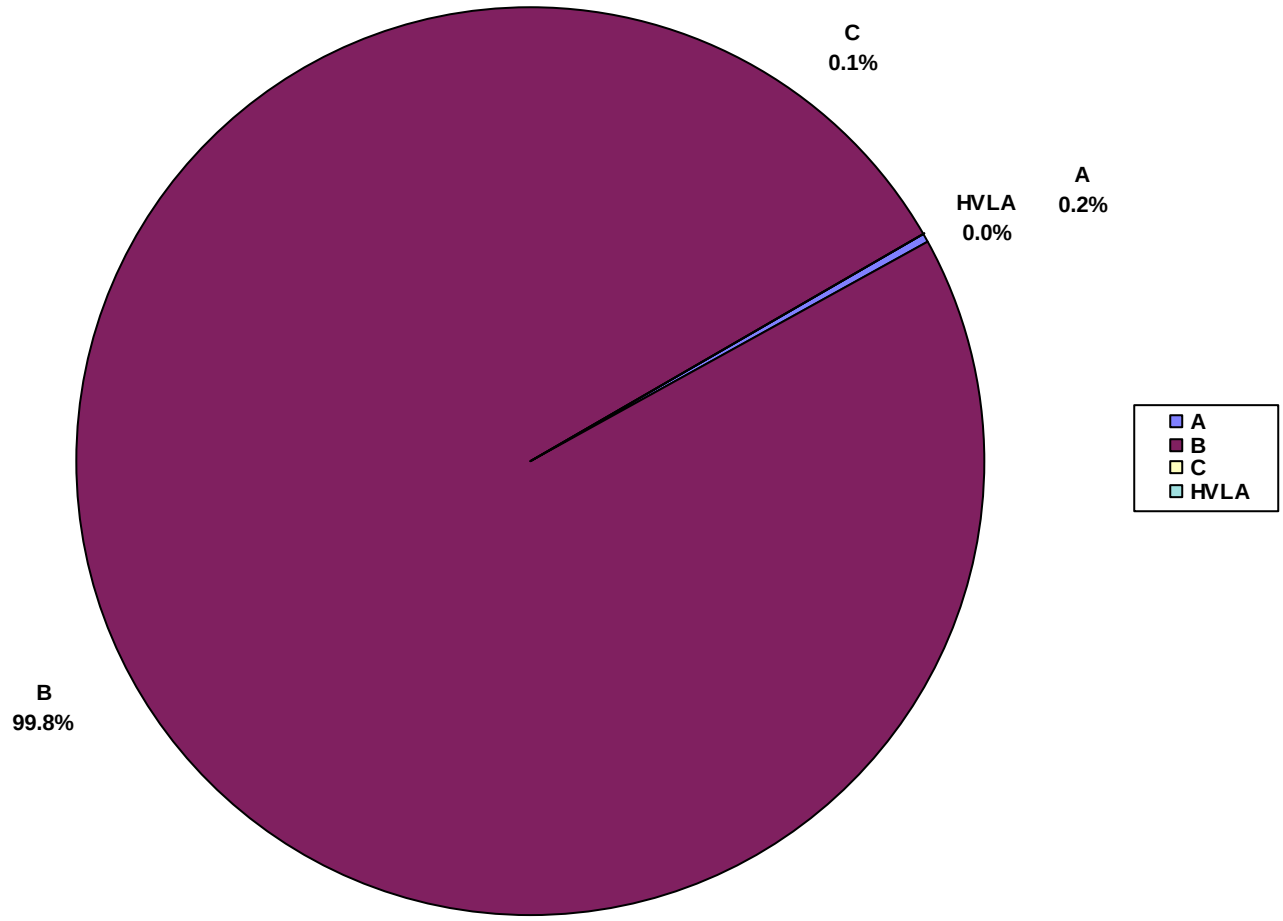


FIGURE 4

PERCENT OF ACTIVITY TRANSFERRED BY WASTE CLASS FOR 2007

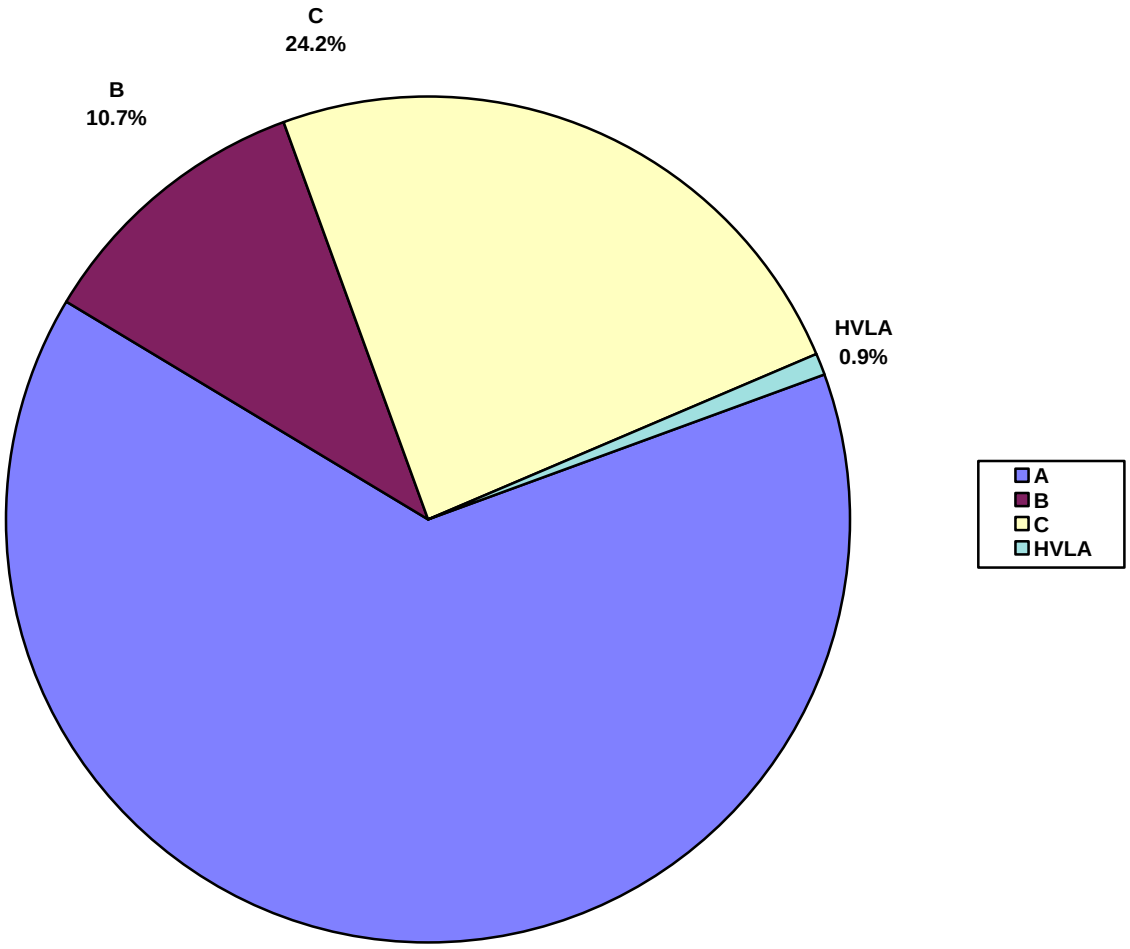


FIGURE 5

PERCENT OF TOTAL VOLUME BY WASTE CLASS FOR 2007

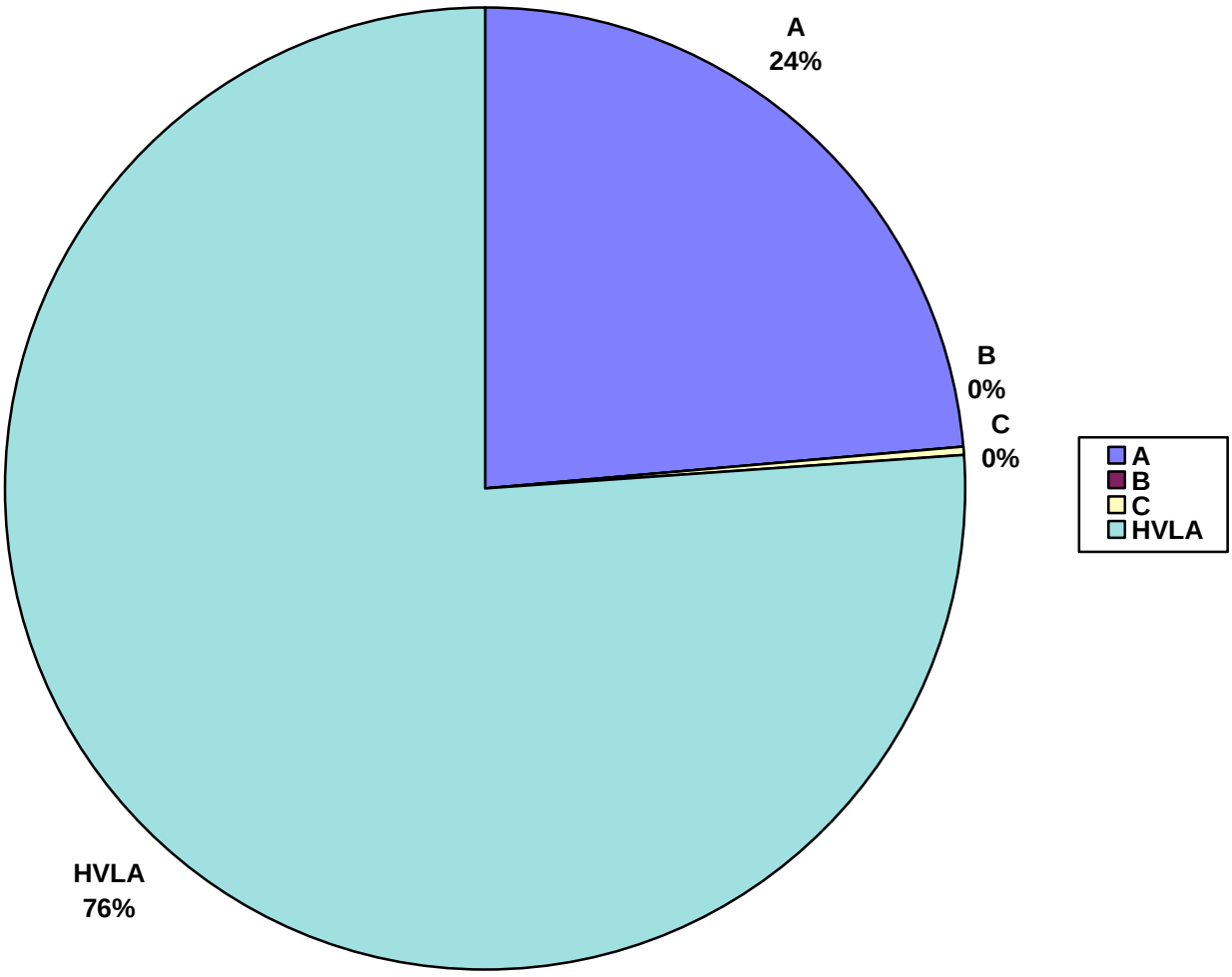


FIGURE 6

PERCENT OF VOLUME IN STORAGE BY WASTE CLASS FOR 2007

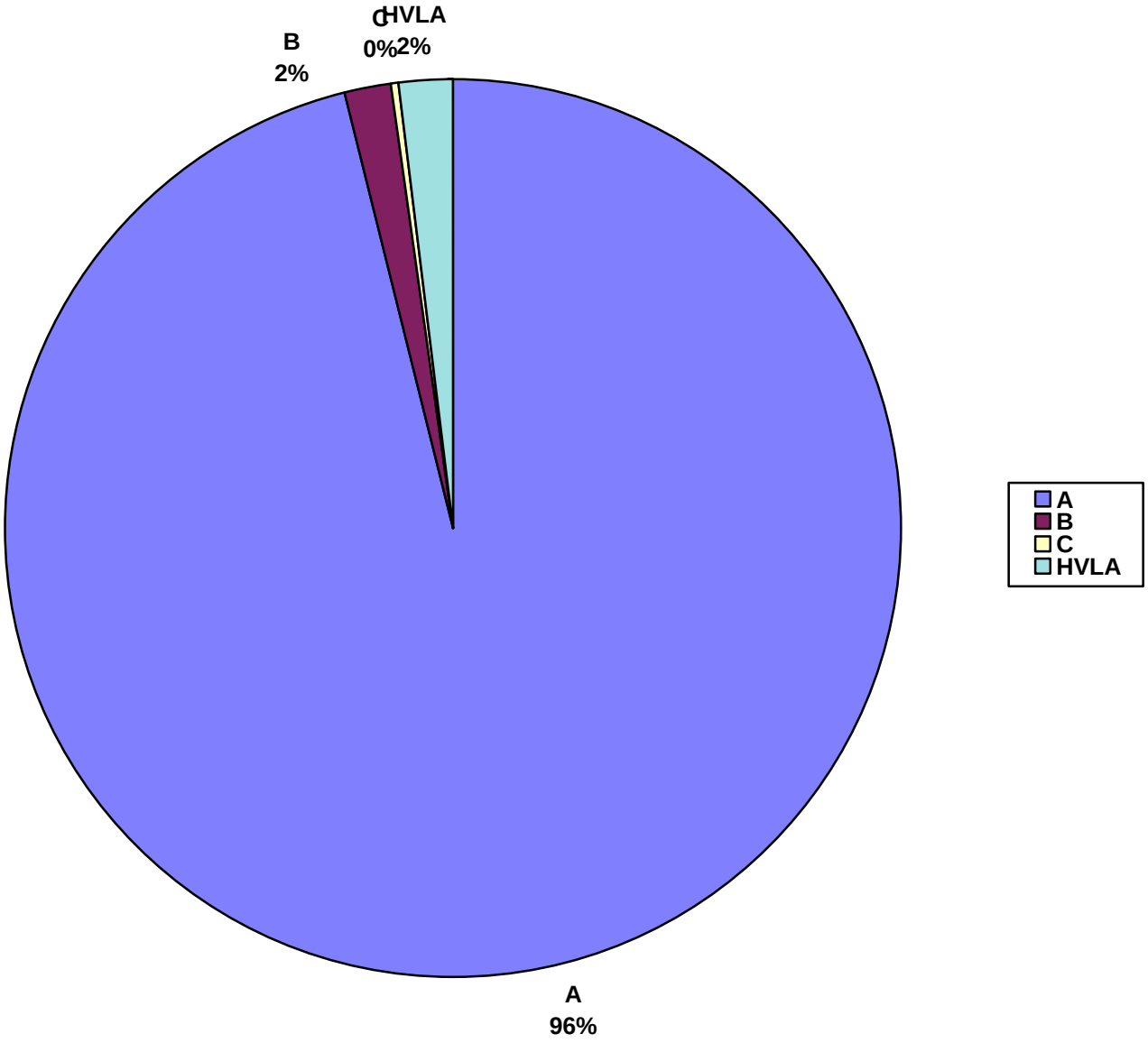


FIGURE 7

PERCENT OF VOLUME SHIPPED BY WASTE CLASS FOR 2007

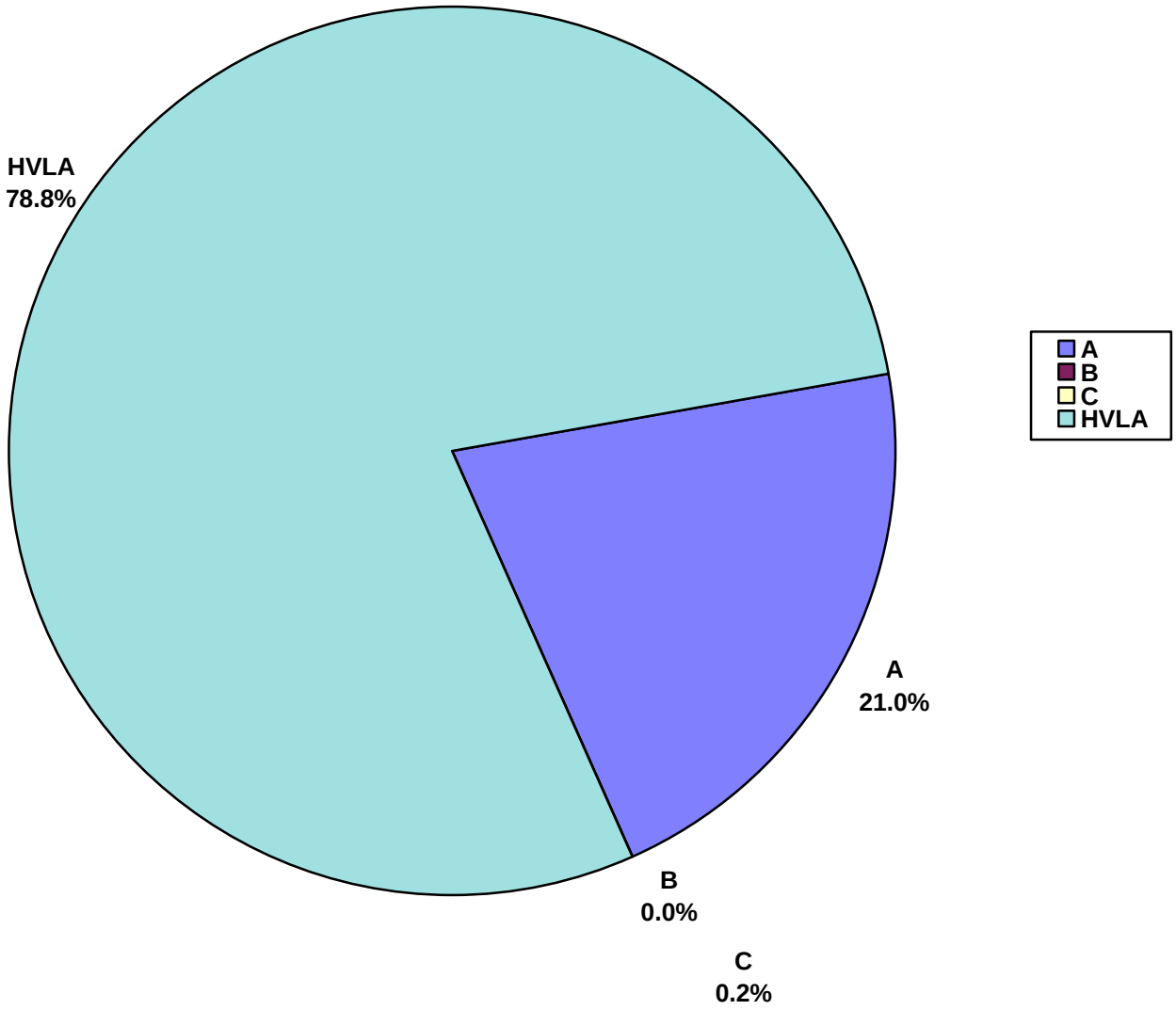
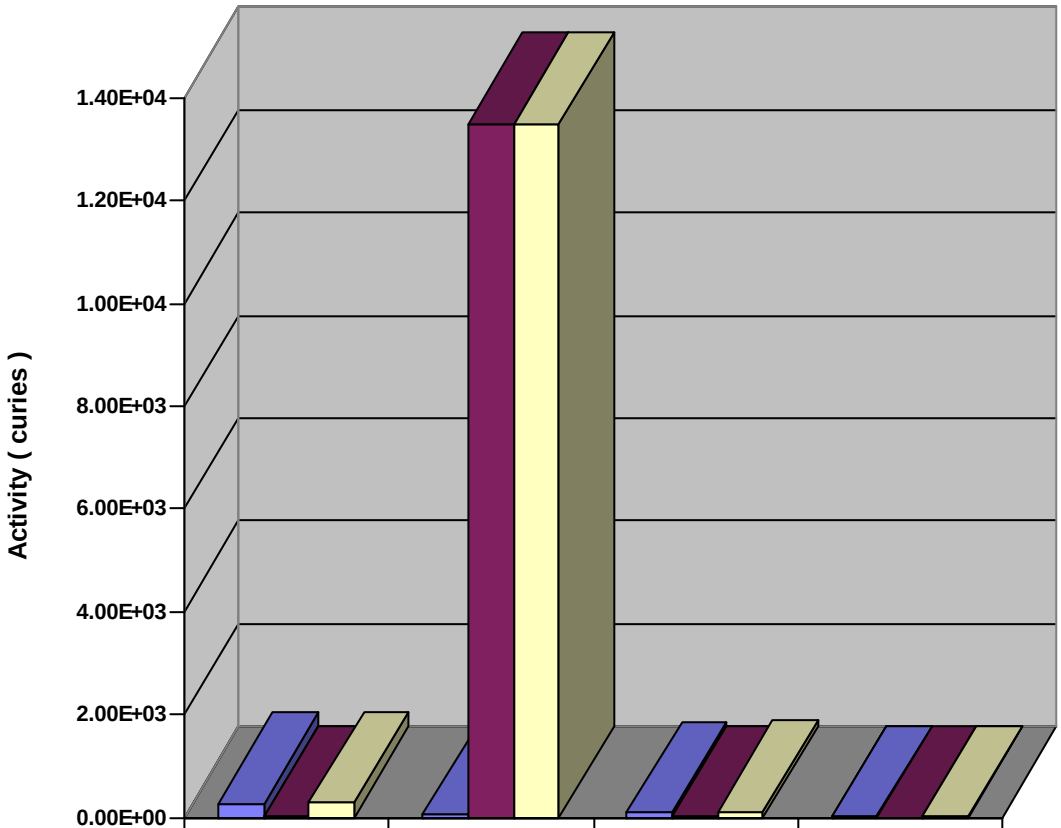


FIGURE 8

COMPARISON OF WASTE ACTIVITIES BY WASTE CLASS FOR 2007

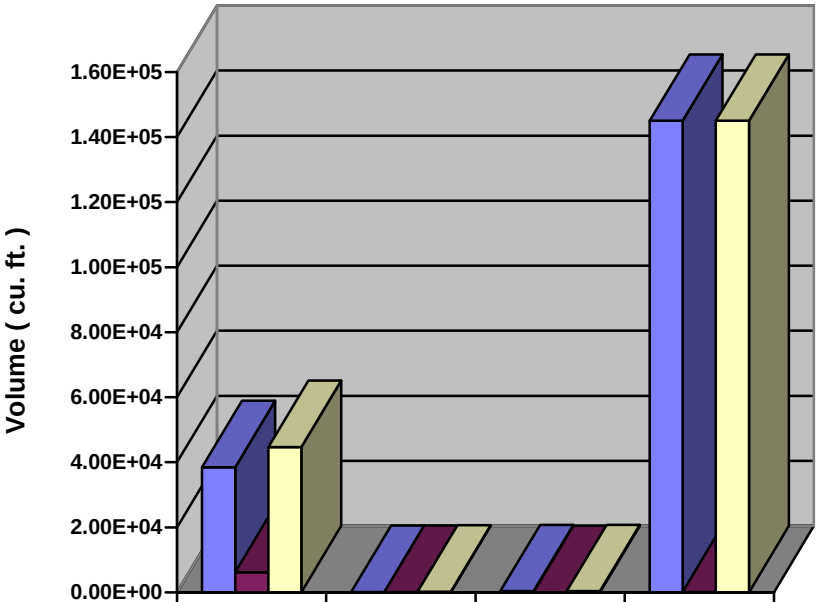


	A	B	C	HVLA
Activity Transferred	2.65E+02	4.41E+01	9.99E+01	3.60E+00
Activity Placed In Storage	2.09E+01	1.35E+04	1.00E+01	7.68E-03
Activity Total	2.86E+02	1.35E+04	1.10E+02	3.61E+00

Waste Class

FIGURE 9

COMPARISON OF WASTE VOLUMES BY WASTE CLASS FOR 2007



	A	B	C	HVLA
Volume Transferred	3.85E+04	7.14E+01	3.45E+02	1.45E+05
Volume Placed In Storage	6.21E+03	1.14E+02	7.50E+00	1.31E+02
Volume Total	4.47E+04	1.86E+02	3.53E+02	1.45E+05

Waste Class

FIGURE 10

PERCENT OF TOTAL ACTIVITY BY WASTE GENERATOR CATEGORY FOR 2007

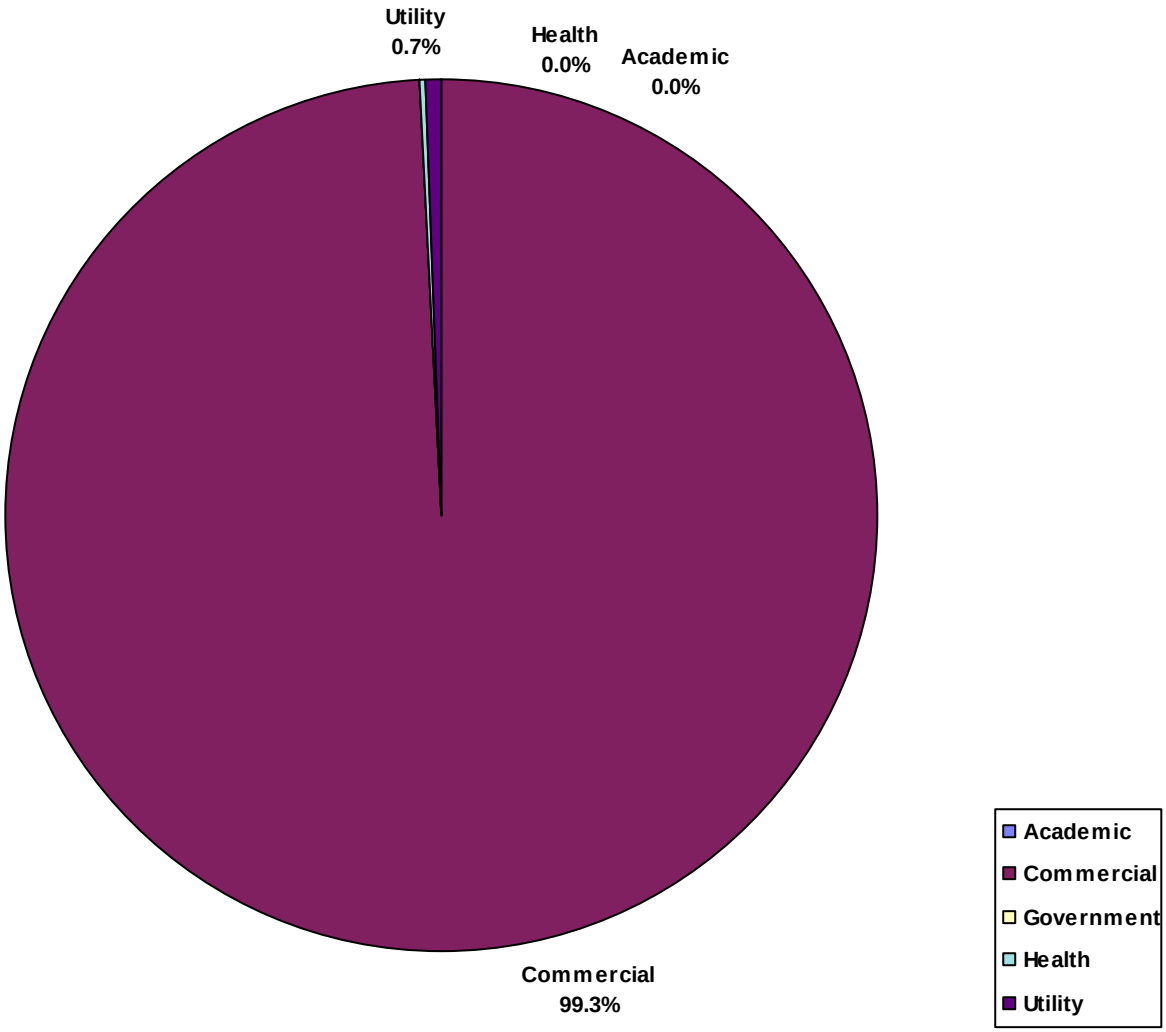


FIGURE 11

PERCENT OF IN-STORAGE ACTIVITY BY WASTE GENERATOR CATEGORY FOR 2007

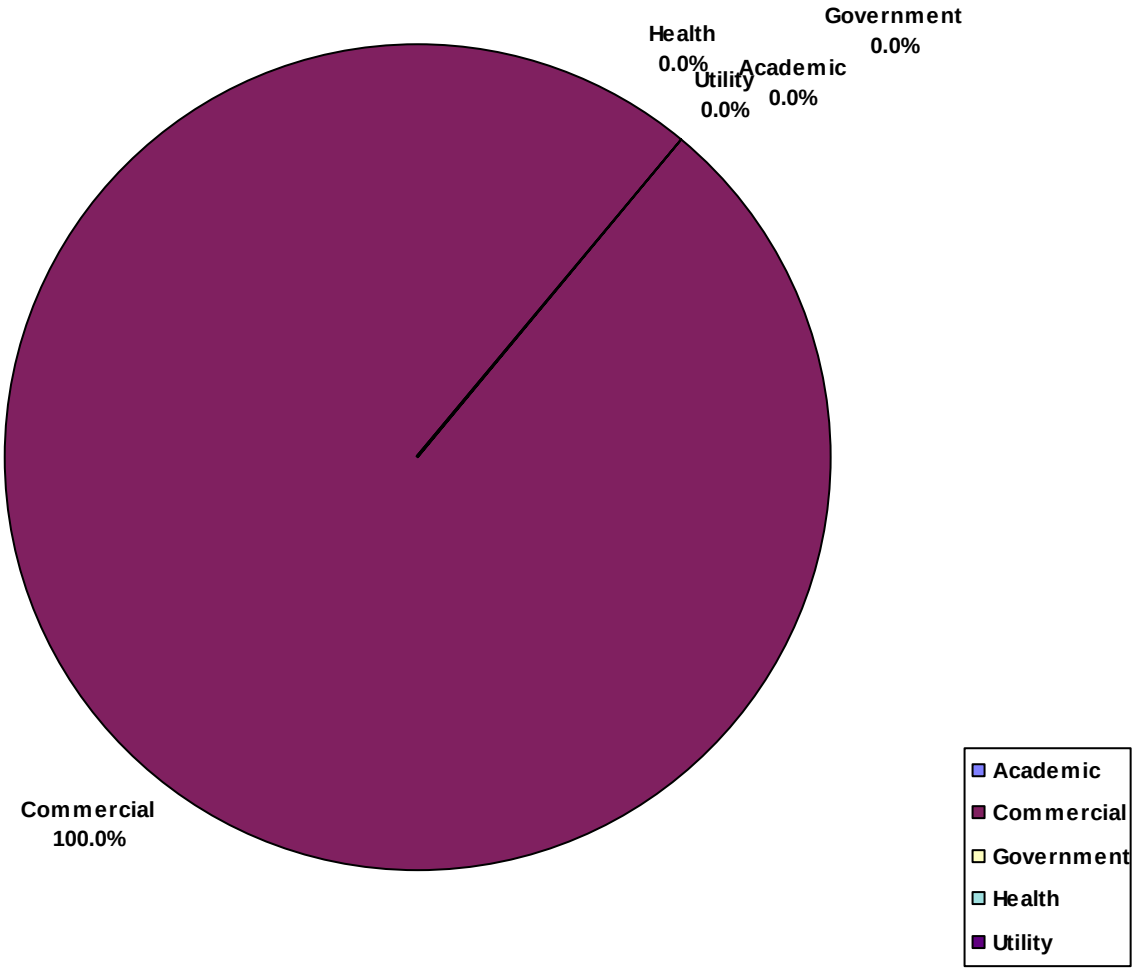


FIGURE 12

PERCENT OF TRANSFERRED ACTIVITY BY WASTE GENERATOR CATEGORY FOR 2007

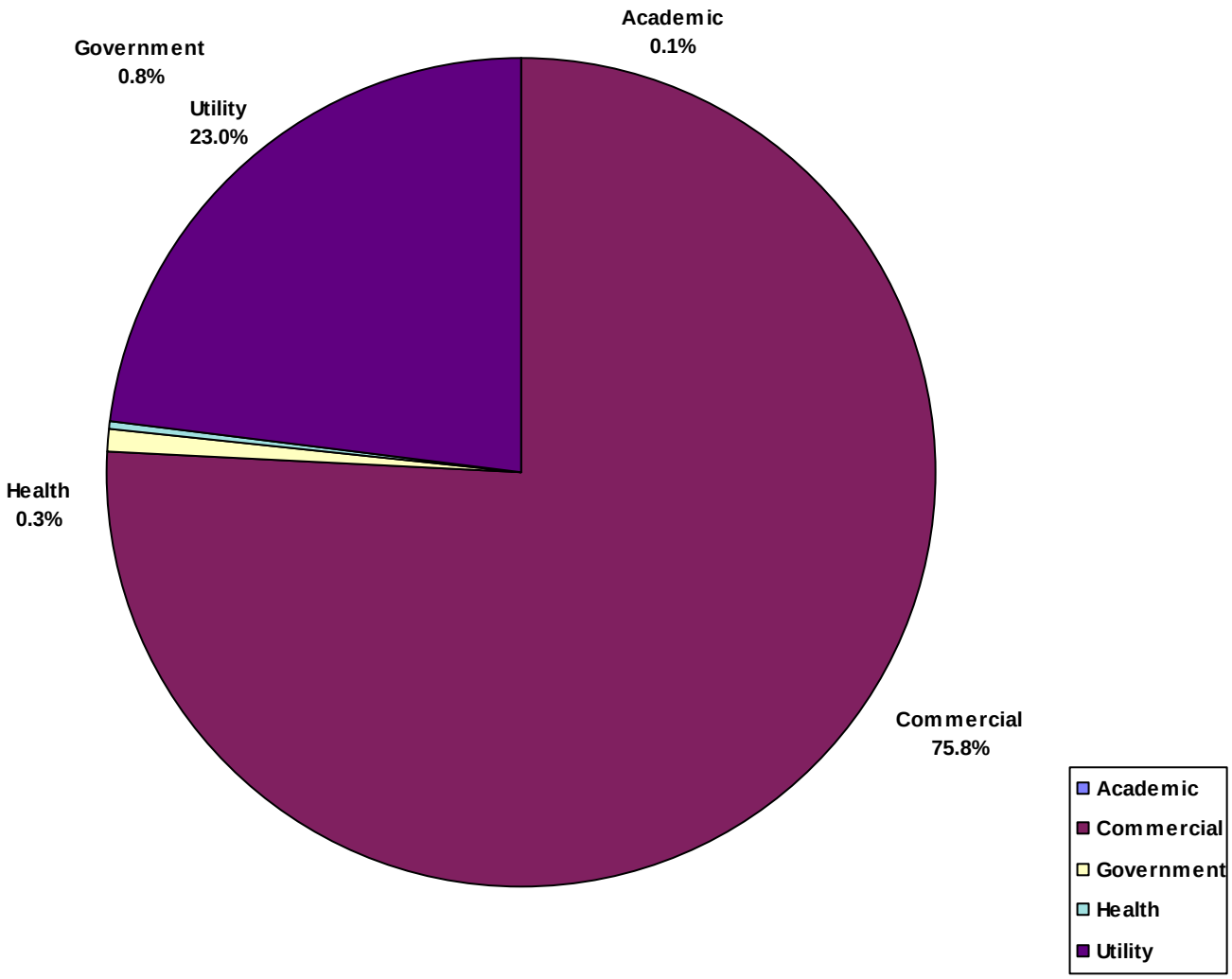
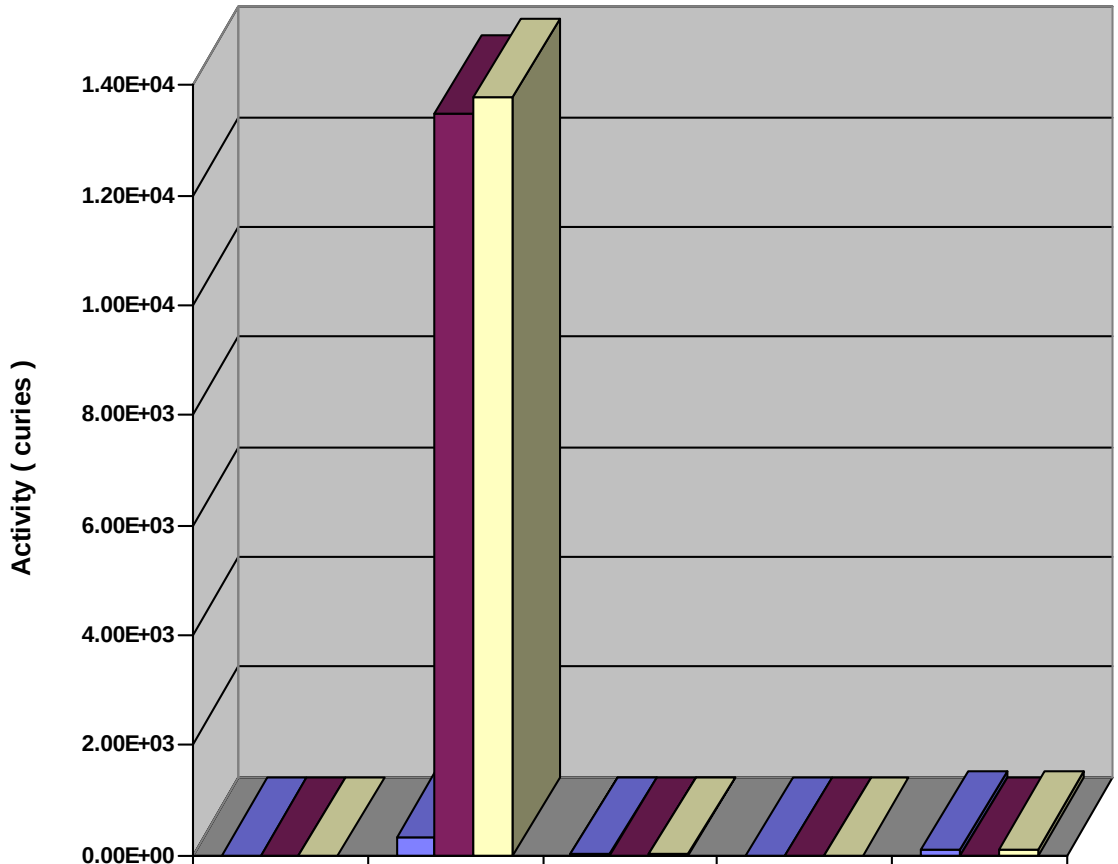


FIGURE 13

COMPARISON OF WASTE ACTIVITIES BY WASTE GENERATOR CATEGORY FOR 2007



	Academic	Commercial	Government	Health	Utility
Activity Transferred	4.33E-01	3.13E+02	3.34E+00	1.04E+00	9.48E+01
Activity Placed In Storage	2.59E-01	1.35E+04	0.00E+00	4.85E-01	1.06E+00
Activity Total	6.92E-01	1.38E+04	3.34E+00	1.53E+00	9.59E+01

Generator Category

FIGURE 14

PERCENT OF TOTAL VOLUME BY WASTE GENERATOR CATEGORY FOR 2007

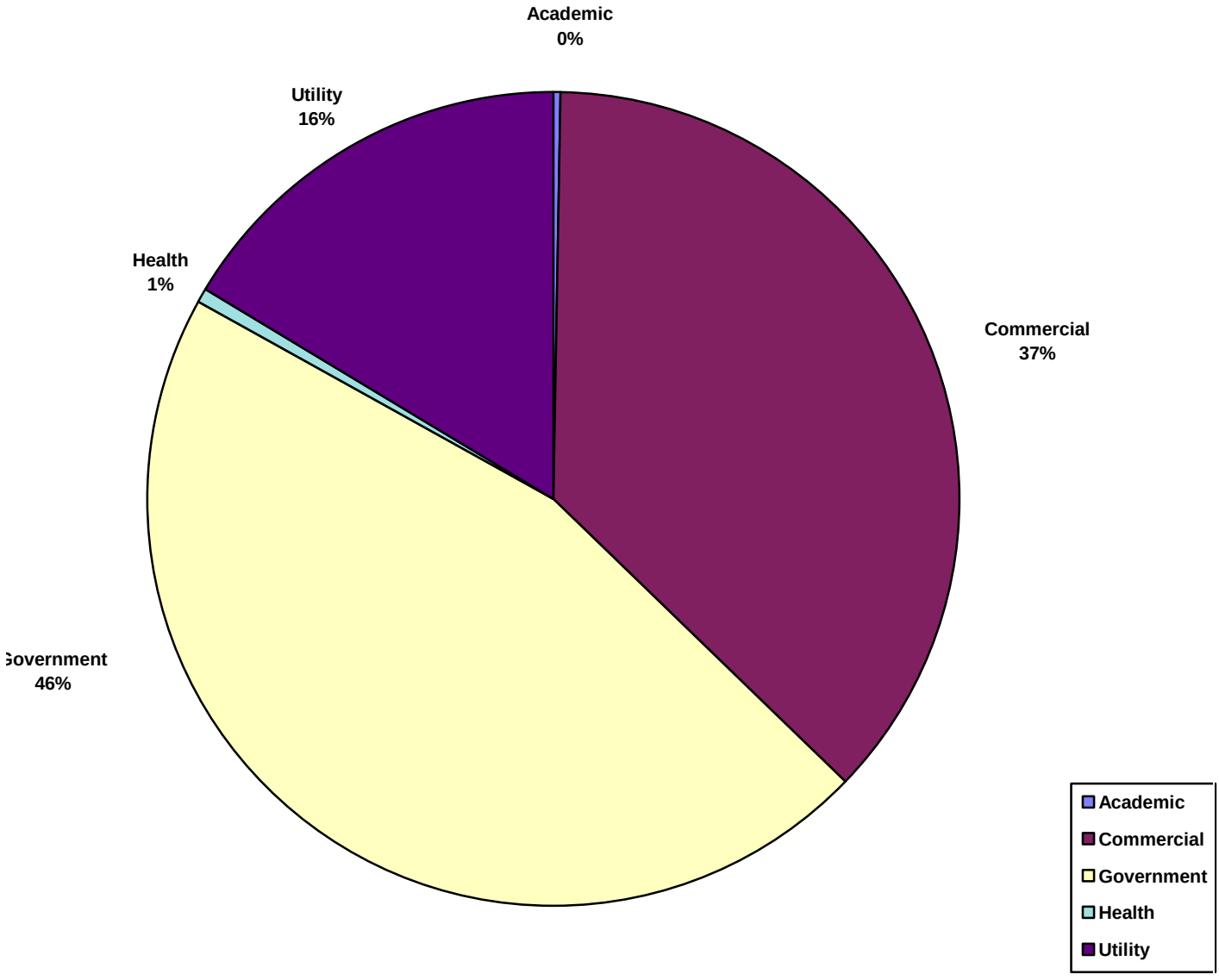


FIGURE 15

PERCENT OF IN-STORAGE VOLUME BY WASTE GENERATOR CATEGORY FOR 2007

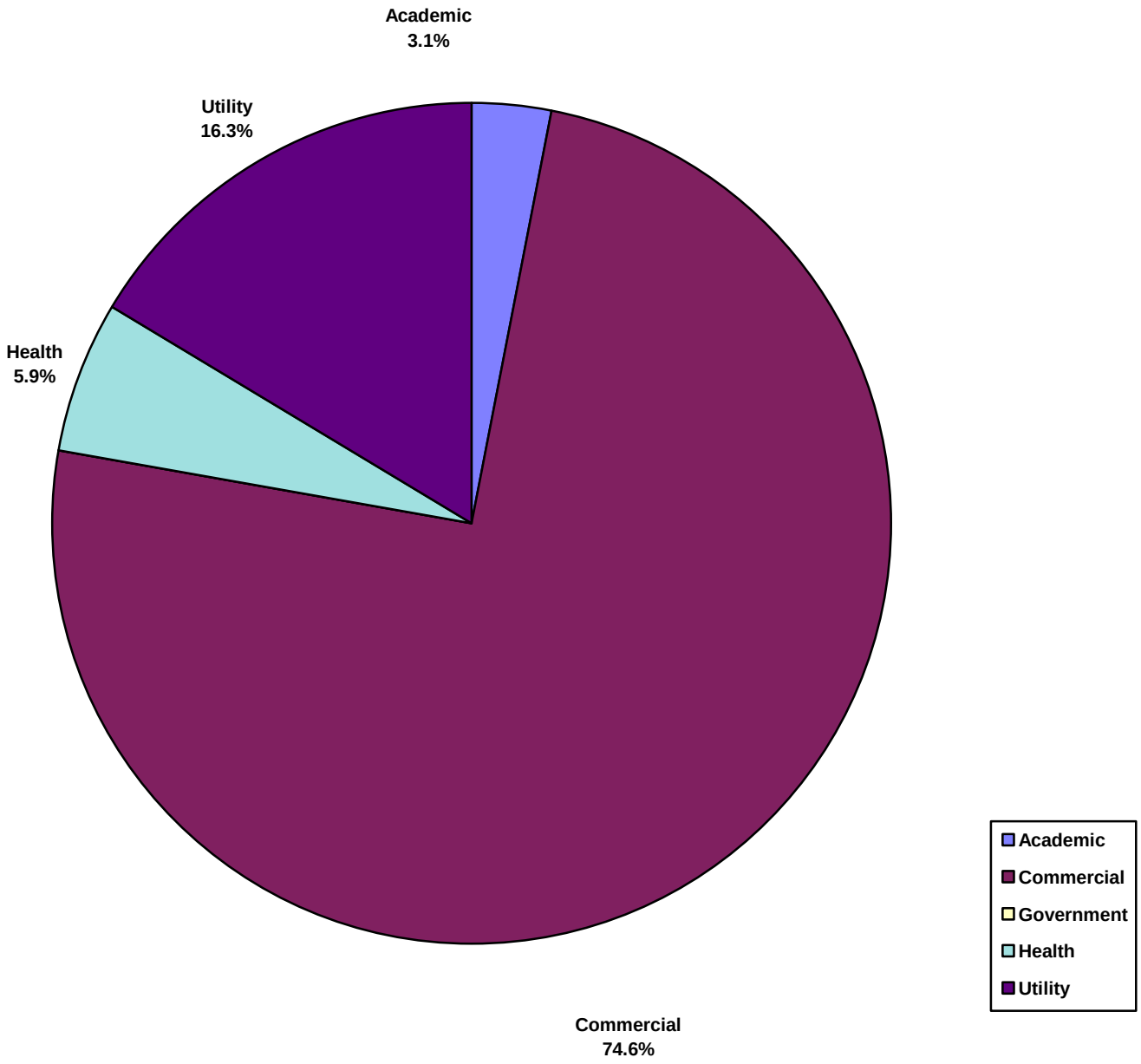


FIGURE 16

PERCENT OF TRANSFERRED VOLUME BY WASTE GENERATOR CATEGORY FOR 2007

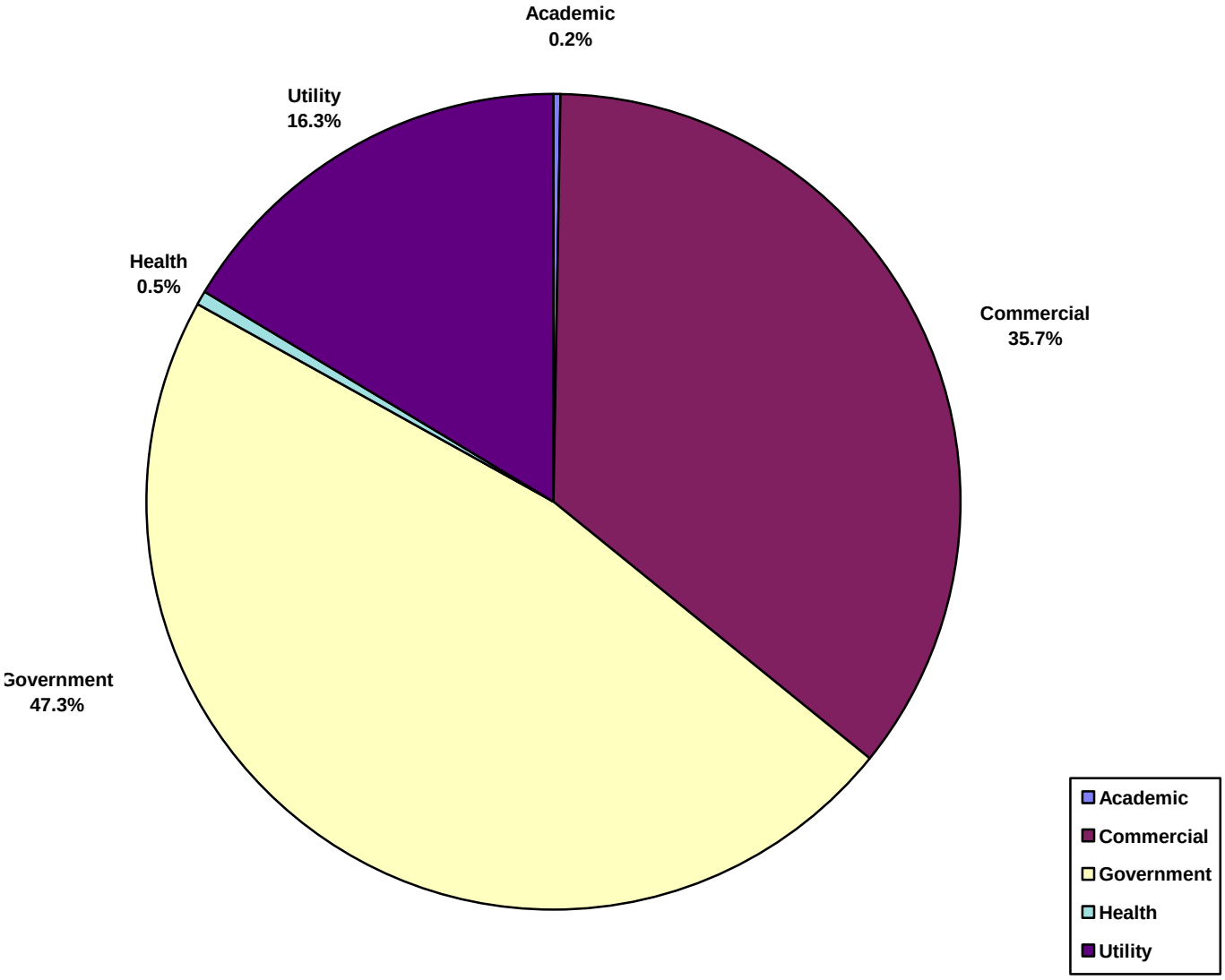
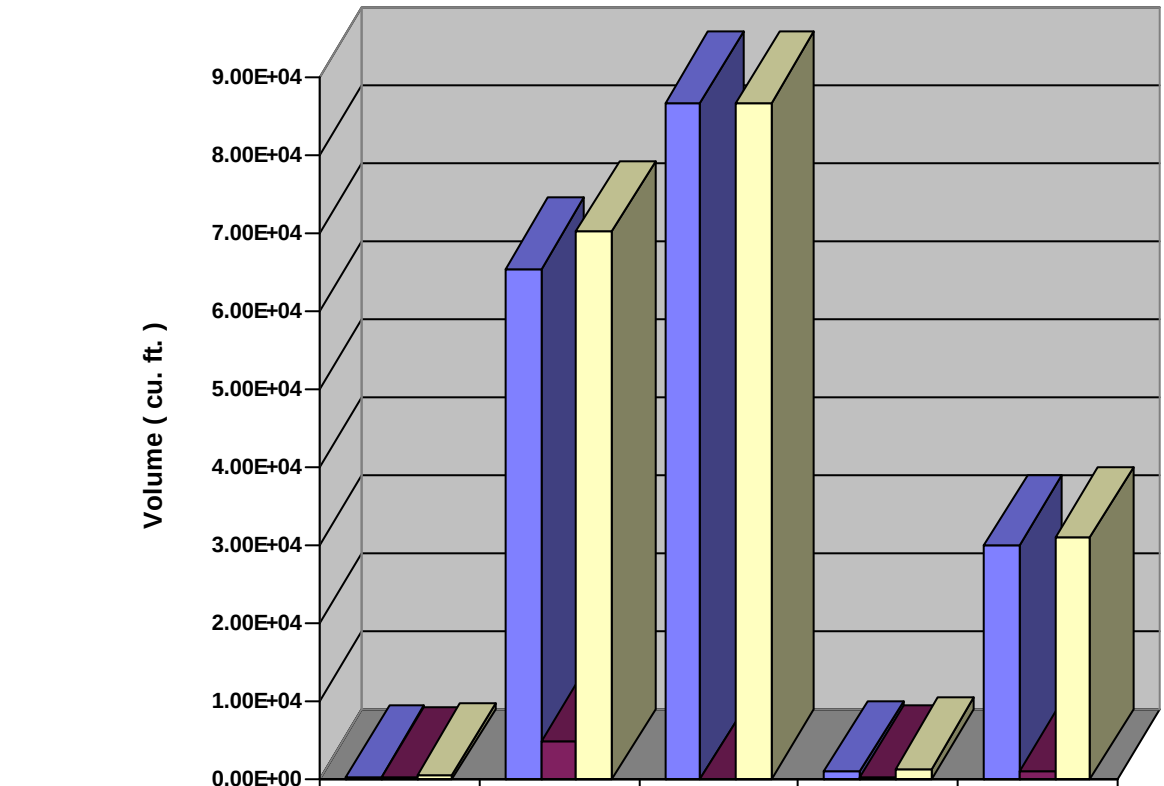


FIGURE 17

COMPARISON OF WASTE VOLUMES BY WASTE GENERATOR CATEGORY FOR 2007



	Academic	Commercial	Government	Health	Utility
Volume Transferred	3.92E+02	6.55E+04	8.68E+04	9.99E+02	3.00E+04
Volume Placed In Storage	2.03E+02	4.82E+03	0.00E+00	3.80E+02	1.06E+03
Volume Total	5.95E+02	7.03E+04	8.68E+04	1.38E+03	3.10E+04

Generator Category

TABLE 14

Activity and Volume by Waste Generator Category For 2007

Waste Generator	Activity (curies)			Volume (Cu. ft.)		
Category	**Transferred**	**In Storage**	**Total**	**Transferred**	**In Storage**	**Total**
Academic	0.43	0.26	0.69	391.57	203.43	595.00
(Percent)	0.1%	0.0%	0.0%	0.2%	3.1%	0.3%
Commercial	312.64	13,480.25	13,792.90	65,510.35	4,821.41	70,331.76
(Percent)	75.8%	100.0%	99.3%	35.7%	74.6%	37.0%
Government	3.34	0.00	3.34	86,770.00	0.00	86,770.00
(Percent)	0.8%	0.0%	0.0%	47.3%	0.0%	45.6%
Health	1.04	0.48	1.53	999.03	379.99	1,379.01
(Percent)	0.3%	0.0%	0.0%	0.5%	5.9%	0.7%
Utility	94.80	1.06	95.86	29,950.00	1,055.00	31,005.00
(Percent)	23.0%	0.0%	0.7%	16.3%	16.3%	16.3%
Grand Total	**412.26**	**13,482.05**	**13,894.33**	**183,620.95**	**6,459.83**	**190,080.77**

FIGURE 18

VOLUME (IN CUBIC FT) LLRW TRANSFERRED BY YEAR

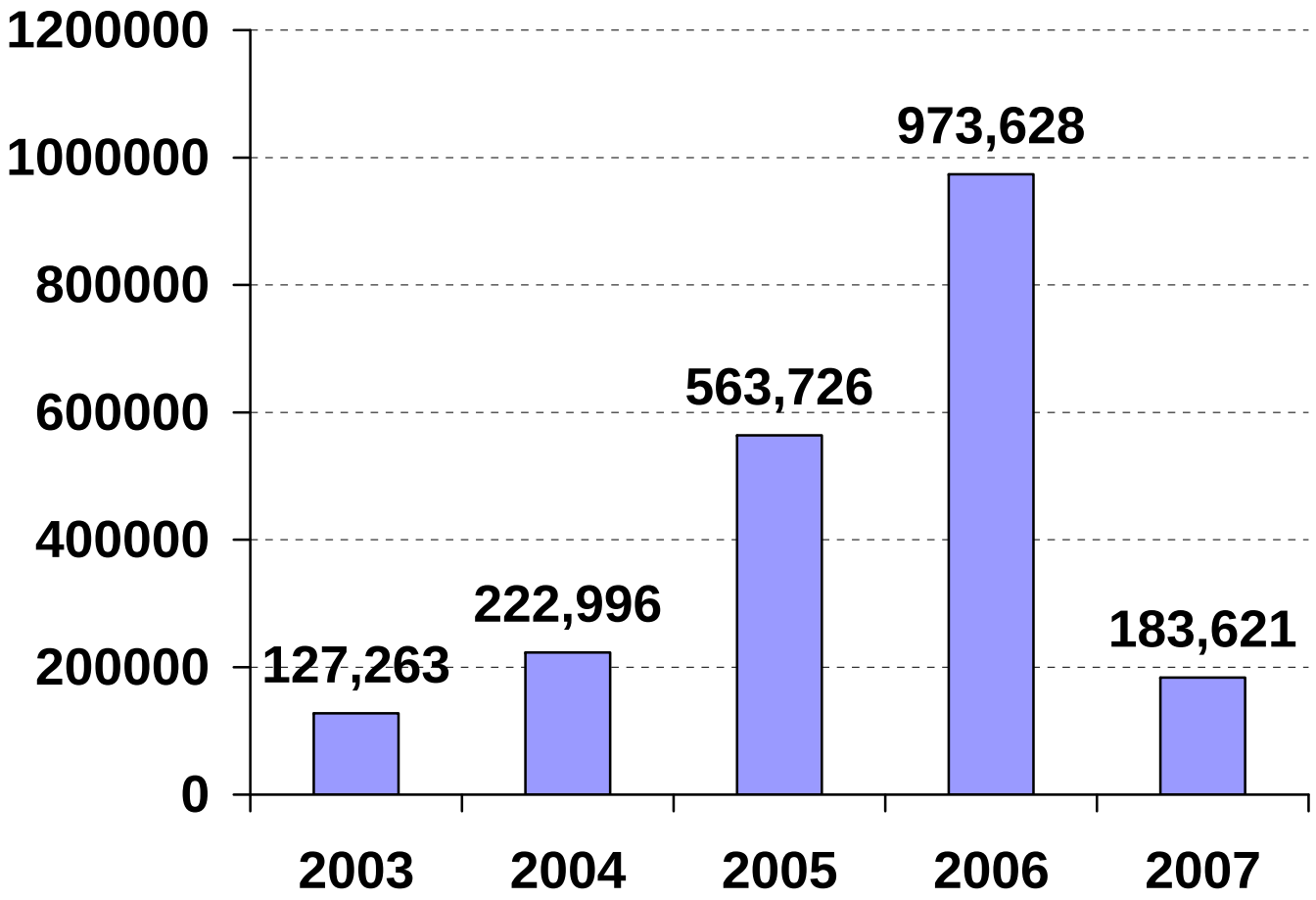


FIGURE 19
ACTIVITY (IN CURIES) LLRW TRANSFERRED BY YEAR

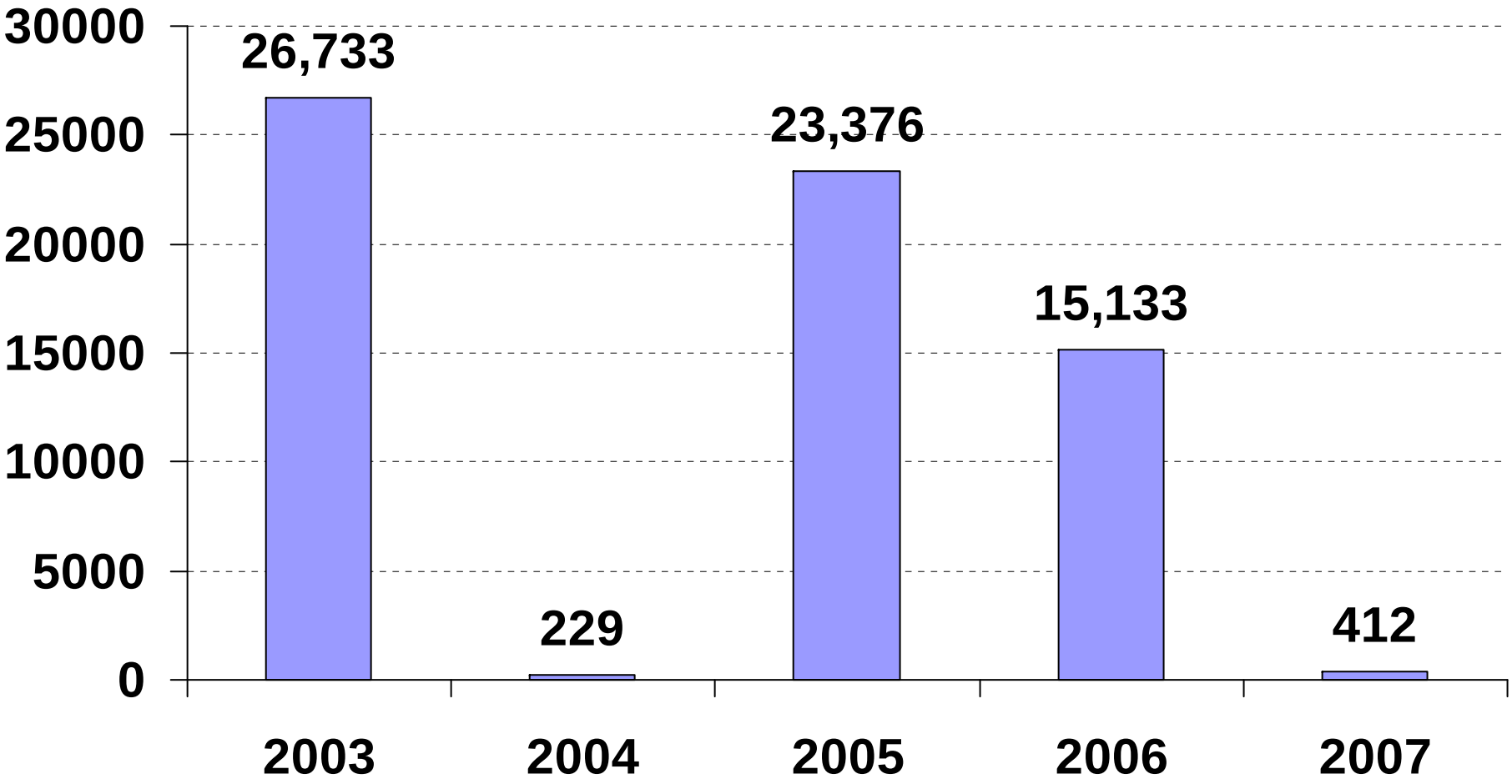


FIGURE 20
TOTAL RAM REPORTING FREQUENCY FOR ALL CLASSES OF WASTE IN 2007

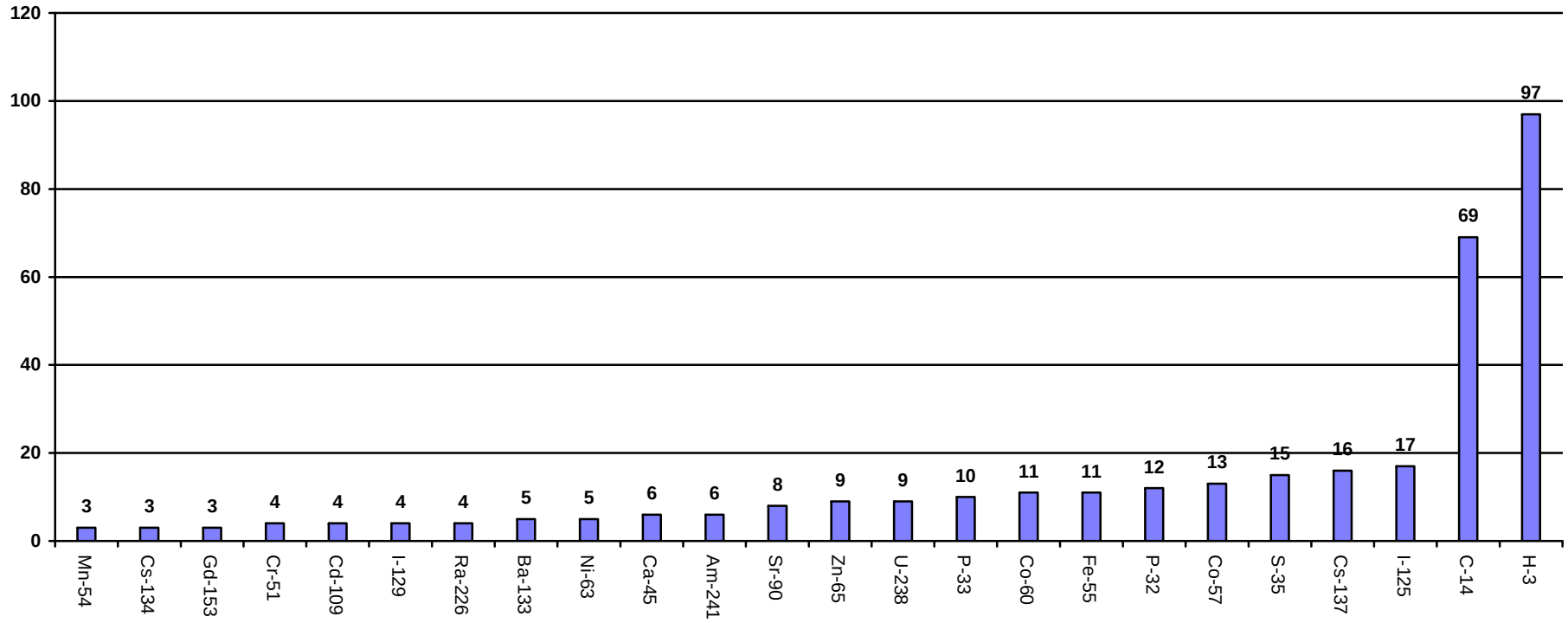


FIGURE 21
TOTAL RAM REPORTING FREQUENCY FOR CLASS A WASTE IN 2007

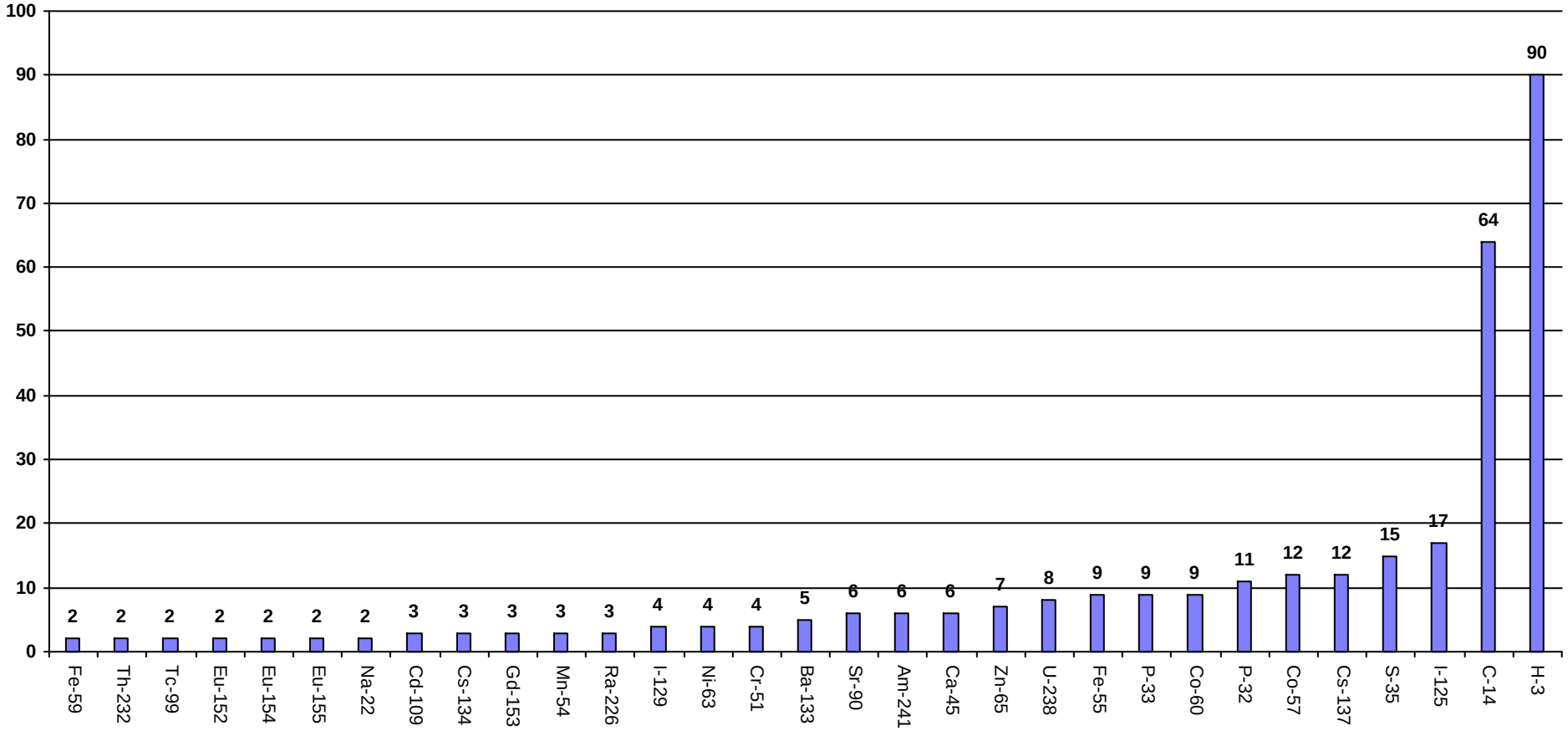


FIGURE 22
TOTAL RAM REPORTING FREQUENCY FOR CLASS B WASTE IN 2007

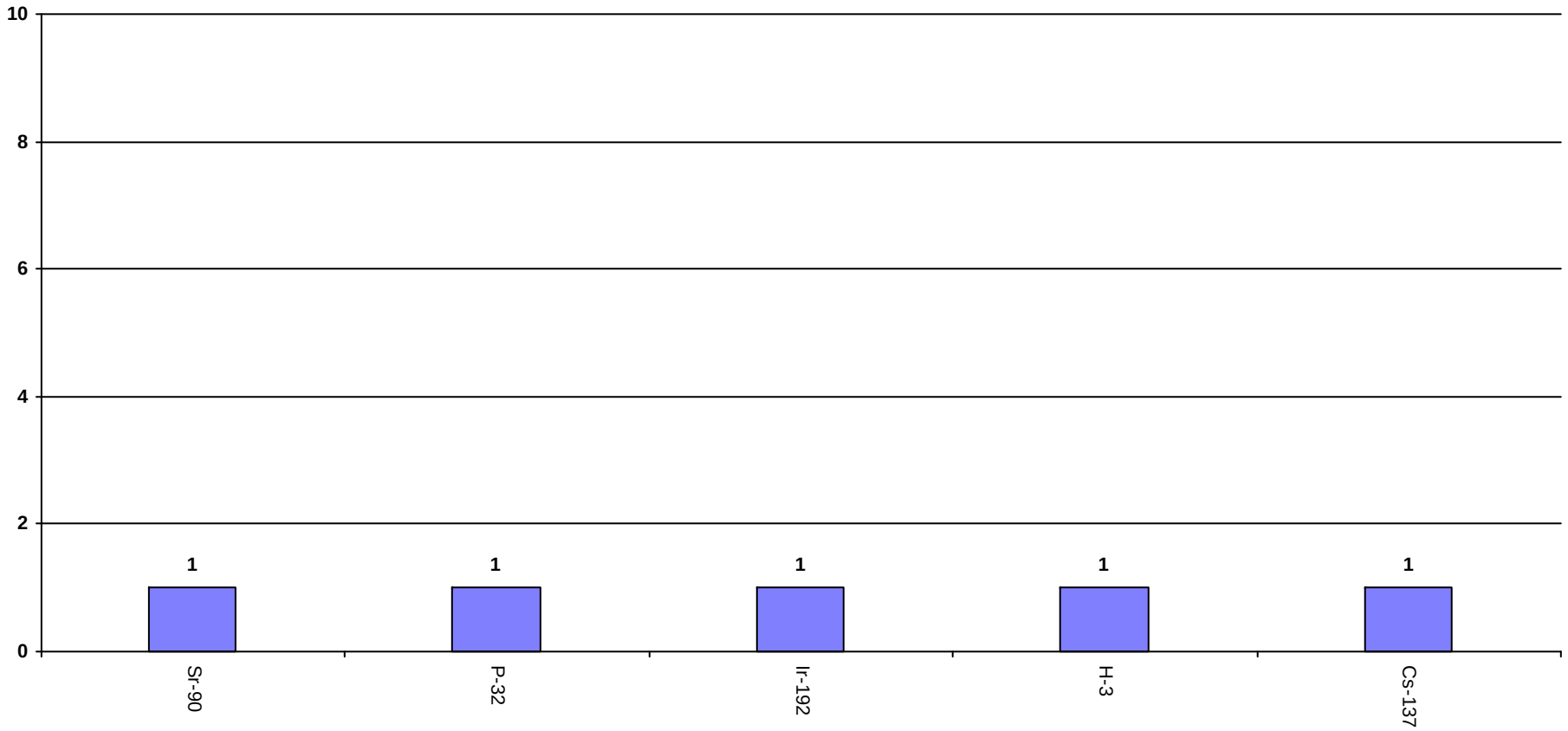


FIGURE 23
TOTAL RAM REPORTING FREQUENCY FOR CLASS C WASTE IN 2007

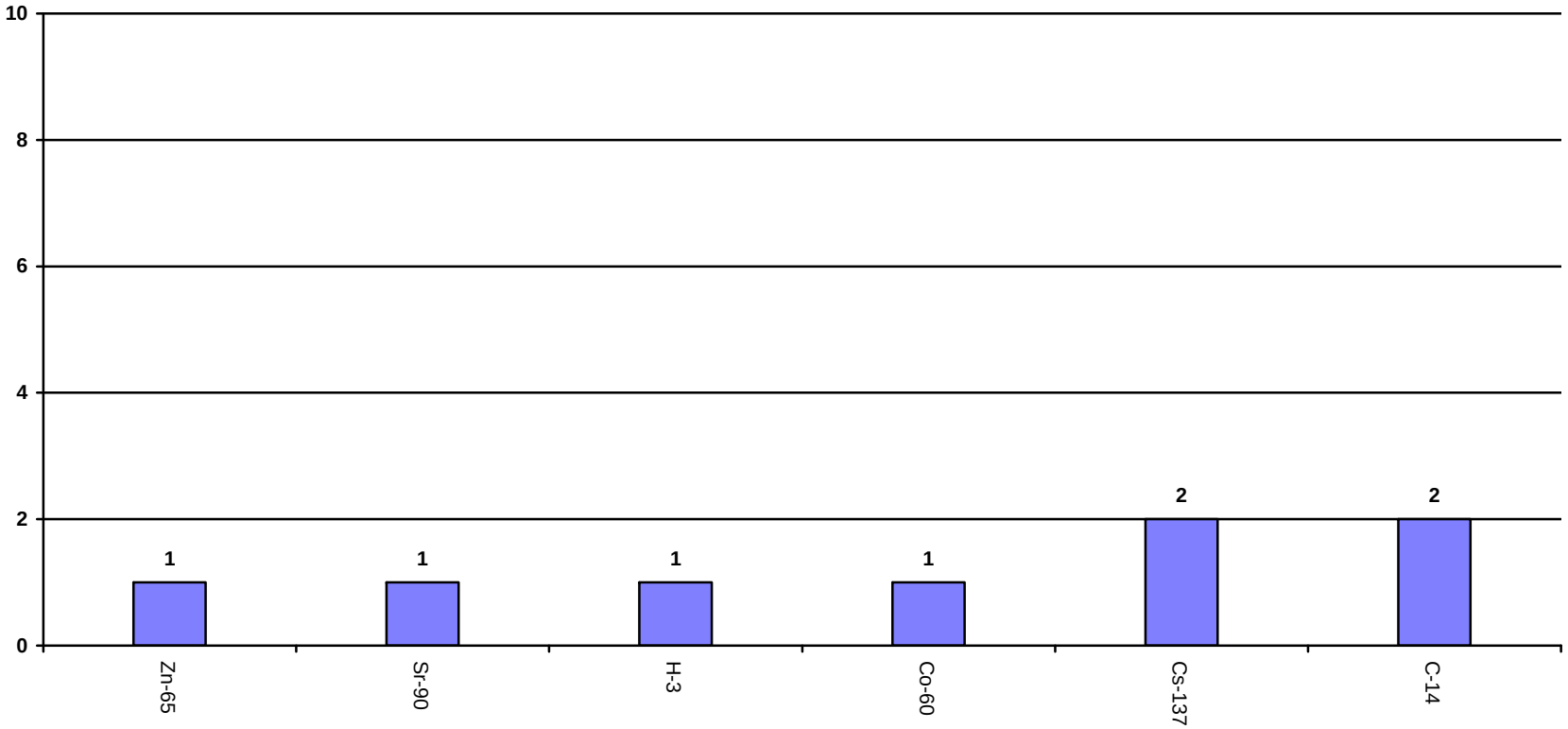


FIGURE 24
TOTAL RAM REPORTING FREQUENCY FOR HVLA WASTE IN 2007

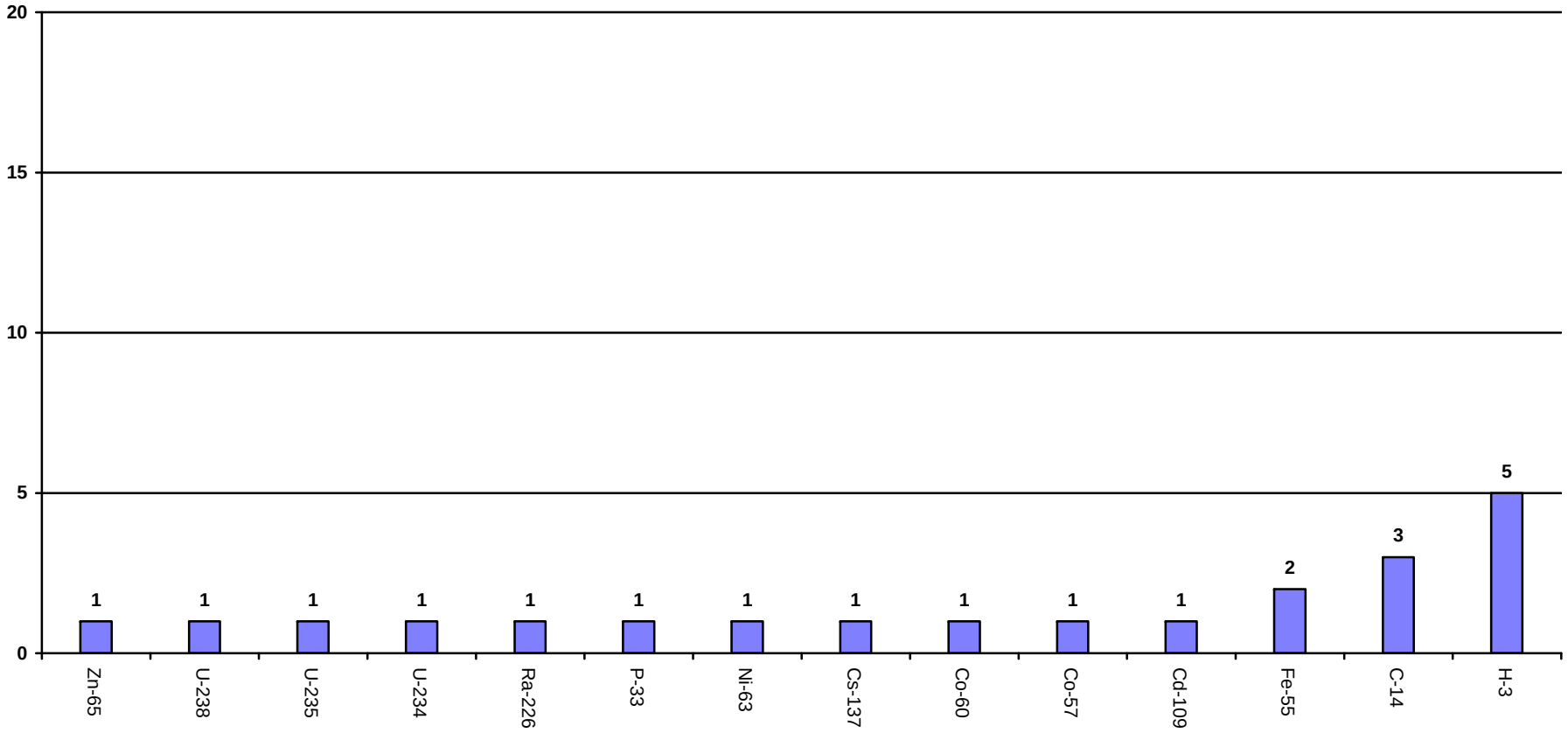


FIGURE 25
IN-STORAGE RAM REPORTING FREQUENCY FOR ALL CLASSES OF WASTE IN 2007

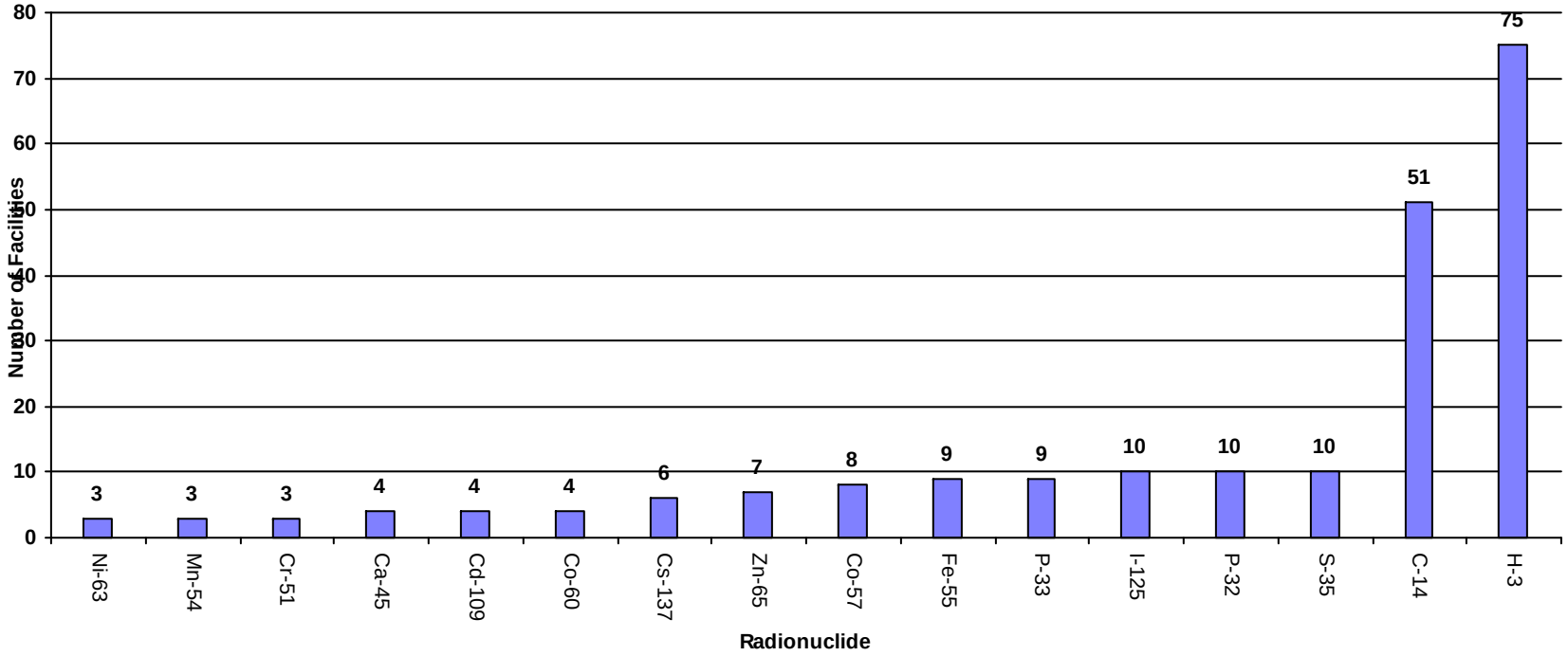


FIGURE 26
TRANSFERRED RAM REPORTING FREQUENCY FOR ALL CLASSES OF WASTE IN 2007

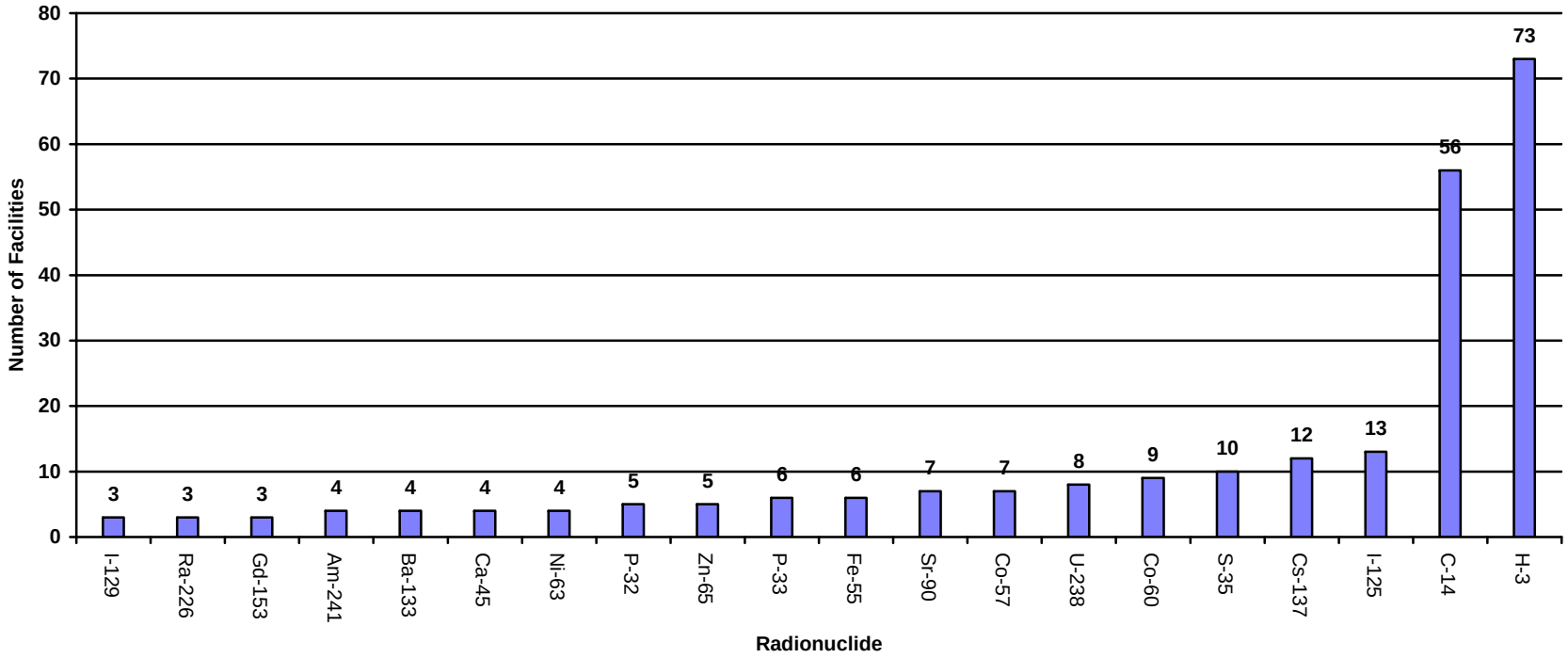


FIGURE 27
DISTRIBUTION OF ORGANIZATIONS THAT GENERATED WASTE IN 2007 - BY ACTIVITY

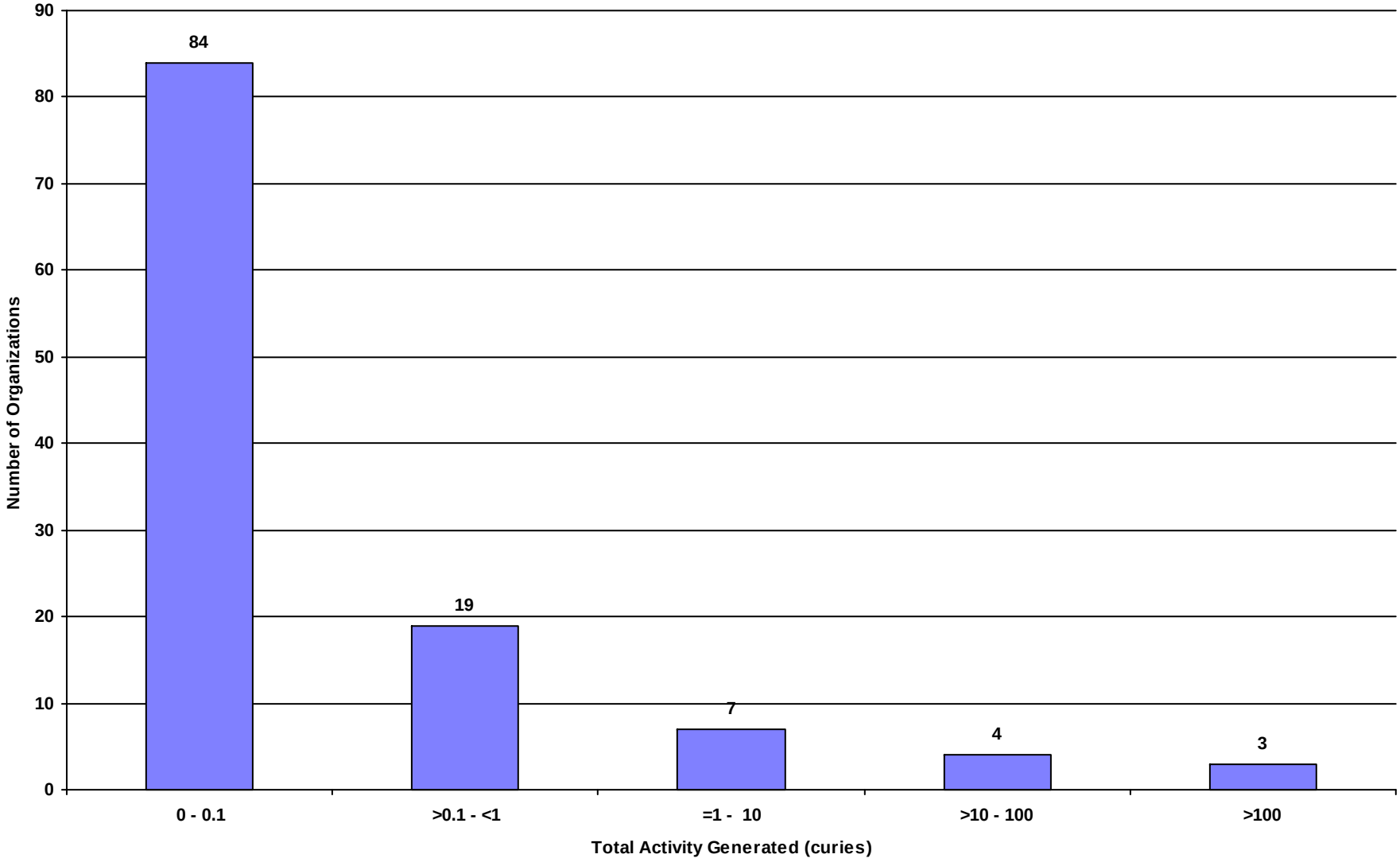


FIGURE 28
DISTRIBUTION OF ORGANIZATIONS THAT GENERATED WASTE IN 2007 - BY VOLUME

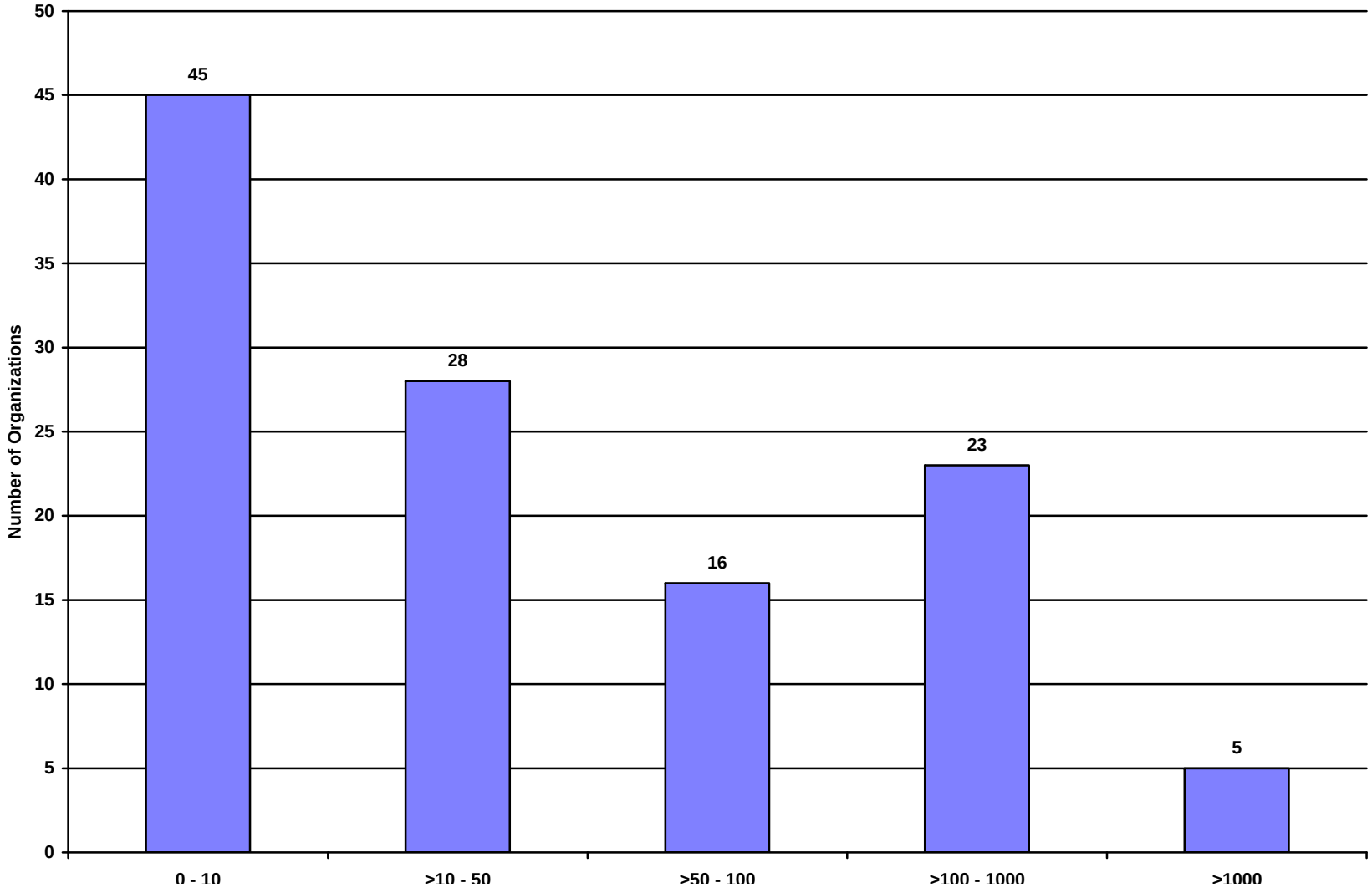


TABLE 15

List of Facilities Activities and Volumes Produced in 2007

	VOLUME (cu. ft.)			*ACTIVITY (curies)*		
Facility Name	**Transferred**	**In Storage**	**Total**	**Transferre**	**In Storage**	**Total**
ABBOTT BIORESEARCH CENTER, INC	0.0	30.0	30.0	0.000	0.009	0.009
ABC TESTING INC.	0.0	0.0	0.0	0.000	0.000	0.000
ACCELERON PHARMA, INC.	0.0	0.0	0.0	0.000	0.000	0.000
ACLIN, INC.	0.0	0.0	0.0	0.000	0.000	0.000
ADAPTIVE OPTICS ASSOCIATES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
ADNEXUS, A BRISTOL-MYERS SQUIBB R&D CO.	0.0	0.0	0.0	0.000	0.000	0.000
ADVANCE TESTING COMPANY, INC.	0.0	0.0	0.0	0.000	0.000	0.000
AGGREGATE INDUSTRIES-NORTHEAST	0.0	0.0	0.0	0.000	0.000	0.000
ALG ENVIRONMENTAL CONSULTING, LLC	0.0	0.0	0.0	0.000	0.000	0.000
ALKERMES, INC.	0.0	2.2	2.2	0.000	0.353	0.353
ALL STATE SERVICES ENVIRON.	0.0	0.0	0.0	0.000	0.000	0.000
ALLEGHENY LUDLUM	0.0	0.0	0.0	0.000	0.000	0.000
ALLIANCE IMAGING, INC.	0.0	0.0	0.0	0.000	0.000	0.000
ALLIED TESTING LABORATORIES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
ALNYLAM PHARMACEUTICALS, INC.	4.1	0.0	4.1	0.000	0.000	0.000
ALTRAN SOLUTIONS CORPORATION	0.0	0.0	0.0	0.000	0.000	0.000
AMAG PHARMACEUTICALS, INC.	0.0	0.0	0.0	0.000	0.000	0.000
AMERICAN ENG. & TESTING, INC.	0.0	0.0	0.0	0.000	0.000	0.000
AMERICAN RED CROSS BLOOD SERV.	0.0	0.0	0.0	0.000	0.000	0.000

	VOLUME (cu. ft.)			ACTIVITY (curies)		
Facility Name	Transferred	In Storage	Total	Transferre	In Storage	Total
AMGEN, INC.	58.3	18.8	77.1	0.005	0.001	0.005
AMHERST COLLEGE	22.9	2.7	25.6	0.000	0.014	0.014
AMHERST COLLEGE - RICHARD MEARS	0.0	0.0	0.0	0.000	0.000	0.000
AMPTEK, INC.	0.0	0.0	0.0	0.000	0.000	0.000
ANALYTICAL ANSWERS , INC	0.0	0.0	0.0	0.000	0.000	0.000
ANGELL ANIMAL MEDICAL CENTER - BOSTON	0.0	0.0	0.0	0.000	0.000	0.000
ANNA JAQUES HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000
ANTIGENICS INC.	0.0	4.0	4.0	0.000	0.001	0.001
A-PAINTING & LEAD DETECT. SERV	0.0	0.0	0.0	0.000	0.000	0.000
APPLIED BIOSYSTEMS	0.0	0.0	0.0	0.000	0.000	0.000
ARCHEMIX CORP.	0.0	0.1	0.1	0.000	0.000	0.000
AREVA NP, INC.	0.0	100.0	100.0	0.000	0.003	0.003
ARIAD PHARMACEUTICALS, INC.	0.0	0.0	0.0	0.000	0.000	0.000
ARMY, DEPARTMENT OF	0.0	0.0	0.0	0.000	0.000	0.000
ARMY, DEPARTMENT OF	0.0	0.0	0.0	0.000	0.000	0.000
ARQULE, INC.	55.6	7.5	63.1	0.027	0.003	0.030
ASAP ENVIRONMENTAL INCORPORATED	0.0	0.0	0.0	0.000	0.000	0.000
ASSURANCE TECHNOLOGY CORPORATION	0.0	0.0	0.0	0.000	0.000	0.000
ASTRAZENECA PHARMACEUTICALS LP	14.3	15.0	29.3	0.001	0.079	0.085
ATC ASSOCIATES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
ATC ASSOCIATES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
ATC GROUP SERVICES, INC.	0.0	0.0	0.0	0.000	0.000	0.000

	VOLUME (cu. ft.)			ACTIVITY (curies)		
Facility Name	Transferred	In Storage	Total	Transferre	In Storage	Total
ATHENA DIAGNOSTICS, INC.	23.3	7.3	30.6	0.001	0.000	0.001
ATLANTIC NUCLEAR CORPORATION	0.0	0.0	0.0	0.000	0.000	0.000
AVANT IMMUNOTHERAPUTICS, INC.	0.7	0.0	0.7	0.003	0.000	0.003
AVEO PHARMACEUTICALS, INC.	0.0	0.0	0.0	0.000	0.000	0.000
AXIOM PARTNERS, INC.	0.0	0.0	0.0	0.000	0.000	0.000
B.J. EDGE & ASSOCIATES	0.0	0.0	0.0	0.000	0.000	0.000
BAKER TESTING SERVICES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
BARTLETT NUCLEAR, INC.	0.0	0.0	0.0	0.000	0.000	0.000
BASCOM, SCOTT A.	0.0	0.0	0.0	0.000	0.000	0.000
BAYSTATE HEALTH	0.0	0.0	0.0	0.000	0.000	0.000
BEAUDETTE, MARC	0.0	0.0	0.0	0.000	0.000	0.000
BECHTEL/PARSONS BRINCKERHOFF	0.0	0.0	0.0	0.000	0.000	0.000
BERKSHIRE MEDICAL CENTER	0.0	0.0	0.0	0.000	0.000	0.000
BETH ISRAEL DEACON. MED. CTR.	0.8	0.0	0.8	0.060	0.000	0.060
BETH ISRAEL DEACON.MED CENTER	0.0	0.0	0.0	0.000	0.000	0.000
BETH ISRAEL DEACONESS HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000
BEVERLY HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000
BIND BIOSCIENCES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
BIOGEN IDEC MA, INC.	151.1	37.5	188.6	0.039	0.000	0.039
BIOHELIX CORPORATION	0.0	0.0	0.0	0.000	0.000	0.000
BIOMEASURE, INC.	0.0	4.0	4.0	0.000	0.000	0.000
BIOMEDICAL RESEARCH MODELS, INC	41.6	22.5	64.1	0.013	0.000	0.013
BIOMEDICAL TECHNOLOGIES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
BIOVEST INTERNATIONAL INCORPORATED	0.0	0.0	0.0	0.000	0.000	0.000

	VOLUME (cu. ft.)			ACTIVITY (curies)		
Facility Name	Transferred	In Storage	Total	Transferre	In Storage	Total
BLACKMAN, MEL	0.0	0.0	0.0	0.000	0.000	0.000
BOSTON BIOMEDICAL RES. INST.	0.0	0.0	0.0	0.000	0.000	0.000
BOSTON BIOMEDICAL, INC.	0.0	0.0	0.0	0.000	0.000	0.000
BOSTON CHILDHOOD LEAD PAINT POISON PREV.	0.0	0.0	0.0	0.000	0.000	0.000
BOSTON COLLEGE	51.4	7.5	58.9	0.017	0.010	0.027
BOSTON EYE SURGERY AND LASER CENTER, INC.	0.0	0.0	0.0	0.000	0.000	0.000
BOSTON SCIENTIFIC	0.0	0.0	0.0	0.000	0.000	0.000
BOSTON UNIV. CHARLES RIVER CAMPUS	79.4	2.8	82.2	0.024	0.003	0.027
BOSTON UNIVERSITY MED CTR HOSP	319.5	0.0	319.5	0.014	0.000	0.014
BRANDEIS UNIVERSITY	0.0	97.5	97.5	0.000	0.175	0.175
BRIDGEWATER GODDARD PARK MED	0.0	0.0	0.0	0.000	0.000	0.000
BRIDGEWATER STATE COLLEGE	0.0	0.0	0.0	0.000	0.000	0.000
BRIGHAM & WOMEN'S HOSPITAL	0.0	112.5	112.5	0.000	0.295	0.295
BROCKTON BOARD OF HEALTH	0.0	0.0	0.0	0.000	0.000	0.000
BROCKTON CARDIOLOGY ASSOCIATES	0.0	0.0	0.0	0.000	0.000	0.000
BROCKTON HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000
BROWN AND CALDWELL	0.0	0.0	0.0	0.000	0.000	0.000
BRUKER DALTONICS NBC DETECTION CORP.	0.0	0.0	0.0	0.000	0.000	0.000
CAMBRIDGE PUB. HEALTH ALLIANCE	0.0	0.0	0.0	0.000	0.000	0.000
CAMP DRESSER & MCKEE, INC.	0.0	0.0	0.0	0.000	0.000	0.000
CAPE COD HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000

Facility Name	VOLUME (cu. ft.)			ACTIVITY (curies)		
	Transferred	In Storage	Total	Transferre	In Storage	Total
CAPFILM / ELECTRONIC CONCEPTS, INC.	0.0	0.0	0.0	0.000	0.000	0.000
CAPITAL CARDIOLOGY ASSOC.,P.C	0.0	0.0	0.0	0.000	0.000	0.000
CARDINAL HEALTH NUCLEAR PHARMACY SERVICE	0.0	0.0	0.0	0.000	0.000	0.000
CARDINAL HEALTH NUCLEAR PHARMACY SERVICES	0.0	0.0	0.0	0.000	0.000	0.000
CARDIOLOGY CONSULT.OF CENTRAL MASS., LLP	0.0	0.0	0.0	0.000	0.000	0.000
CARDIOVASCULAR SPECIALISTS, LLC	0.0	0.0	0.0	0.000	0.000	0.000
CARITAS CARNEY HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000
CARITAS GOOD SAMARITAN MED CENTER	0.0	0.0	0.0	0.000	0.000	0.000
CARITAS HOLY FAMILY HOSPITAL AND MED CTR	0.0	0.0	0.0	0.000	0.000	0.000
CARITAS NORWOOD HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000
CARITAS PET IMAGING, LLC	0.0	0.0	0.0	0.000	0.000	0.000
CARITAS ST. ELIZABETH'S MED. CNTER OF BO	0.0	0.0	0.0	0.000	0.000	0.000
CATALDO, JOSEPH P.	0.0	0.0	0.0	0.000	0.000	0.000
CAULFIELD ENVIRONMENTAL	0.0	0.0	0.0	0.000	0.000	0.000
CELL SIGNALING TECHNOLOGY	0.0	0.0	0.0	0.000	0.000	0.000
CHADWICK MEDICAL ASSOCIATES	0.0	0.0	0.0	0.000	0.000	0.000
CHARLES RIVER LABORATORIES,INC	671.0	25.0	696.0	0.019	0.001	0.020
CHARLES RIVER PHARMSERVICES	0.0	0.0	0.0	0.000	0.000	0.000
CHARLES STARK DRAPER LAB., INC	0.0	0.0	0.0	0.000	0.000	0.000
CHARM SCIENCES INC.	36.4	2.6	39.0	0.011	0.001	0.012
CHEMIC LABORATORIES, INC.	9.0	0.0	9.0	0.010	0.000	0.010

	VOLUME (cu. ft.)			ACTIVITY (curies)		
Facility Name	Transferred	In Storage	Total	Transferre	In Storage	Total
CHILD SAFE LEAD PAINT	0.0	0.0	0.0	0.000	0.000	0.000
CHILDREN'S HOSPITAL, THE	0.8	52.5	53.3	0.040	0.005	0.045
CITY OF FITCHBURG	0.0	0.0	0.0	0.000	0.000	0.000
CITY OF LEOMINSTER	0.0	0.0	0.0	0.000	0.000	0.000
CITY OF NEWTON	0.0	0.0	0.0	0.000	0.000	0.000
CLARK UNIVERSITY	0.0	0.0	0.0	0.000	0.000	0.000
CLINICAL SCIENCE LAB., INC.	0.0	0.0	0.0	0.000	0.000	0.000
CLIPPER CARDIOVASCULAR ASSOCIATES	0.0	0.0	0.0	0.000	0.000	0.000
COLLEGE OF OUR LADY OF ELMS	0.0	0.0	0.0	0.000	0.000	0.000
COLLEGE OF THE HOLY CROSS	0.0	0.0	0.0	0.000	0.000	0.000
COMBINATORX, INC.	0.0	0.0	0.0	0.000	0.000	0.000
COMMUNICATIONS & POWER INDUST.	37.5	0.0	37.5	26.213	0.000	26.213
CONAM INSPECTION	0.0	0.0	0.0	0.000	0.000	0.000
CONCORD BIOMEDICAL SCIENCES & EMERGING TECHNOLOGIES	0.0	7.0	7.0	0.000	0.007	0.007
COOLEY DICKINSON HOSPITAL, INC	0.0	0.0	0.0	0.000	0.000	0.000
COVINO ENVIRON. ASSOC. INC.	0.0	0.0	0.0	0.000	0.000	0.000
CRANE & CO., INC.	0.0	0.0	0.0	0.000	0.000	0.000
CRANE ENVIRONMENTAL CONSULTANTS, LLC	0.0	0.0	0.0	0.000	0.000	0.000
CRITICAL THERAPEUTICS, INC,	0.0	0.0	0.0	0.000	0.000	0.000
CUBIST PHARMACEUTICALS, INC.	0.0	8.0	8.0	0.000	1.498	1.498
CURIS, INC.	0.0	0.0	0.0	0.000	0.000	0.000
DANA-FARBER CANCER INSTITUTE	350.7	0.0	350.7	0.321	0.000	0.321
DAVID & SON LEAD INSPECTIONS	0.0	0.0	0.0	0.000	0.000	0.000

Facility Name	VOLUME (cu. ft.)			ACTIVITY (curies)		
	Transferred	In Storage	Total	Transferre	In Storage	Total
DIGIRAD IMAGING SOLUTIONS, INC.	0.0	0.0	0.0	0.000	0.000	0.000
DILLARD, ANNETTE	0.0	0.0	0.0	0.000	0.000	0.000
DISCOVERY LABWARE, INC.	118.3	55.9	174.2	0.013	0.007	0.020
DIVERSIFIED ENVIRONMENTAL CORP	0.0	0.0	0.0	0.000	0.000	0.000
DOMINION ENERGY BRAYTON POINT, LLC	0.0	0.0	0.0	0.000	0.000	0.000
DOMINION ENERGY SALEM HARBOR, LLC	0.0	0.0	0.0	0.000	0.000	0.000
DOSITEC, INC.	0.0	0.0	0.0	0.000	0.000	0.000
E.T. & L. CORP.	0.0	0.0	0.0	0.000	0.000	0.000
EARTHWORKS ENGINEERING, INC.	0.0	0.0	0.0	0.000	0.000	0.000
EDITH NOURSE ROGERS MEMORIAL VETERANS HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000
EISAI RESEARCH INSTITUTE	26.8	6.0	32.8	0.170	0.070	0.240
ELIXIR PHARMACEUTICALS, INC.	4.0	4.0	8.0	0.000	0.001	0.002
EMD LEXIGEN RESEARCH CENTER CORPORATION	51.5	15.5	66.9	0.014	0.004	0.018
EMD SERONO RESEARCH INSTITUTE, INC.	7.5	0.0	7.5	0.019	0.000	0.019
EMERALD LEAD TESTING CO.	0.0	0.0	0.0	0.000	0.000	0.000
EMERSON HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000
ENANTA PHARMACEUTICALS	4.1	4.1	8.2	0.004	0.002	0.006
ENRIGHT, JOHN J.	0.0	0.0	0.0	0.000	0.000	0.000
ENSR INTERNATIONAL	0.0	0.0	0.0	0.000	0.000	0.000
ENTERGY NUCLEAR GENERATING COMPANY	29,600.0	1,055.0	30,655.0	94.800	1.060	95.860
ENVIRONMENTAL AND LEAD PT INSP	0.0	0.0	0.0	0.000	0.000	0.000

Facility Name	VOLUME (cu. ft.)			ACTIVITY (curies)		
	Transferred	In Storage	Total	Transferre	In Storage	Total
ENVIRONMENTAL CHEMICAL CORPORATION	0.0	0.0	0.0	0.000	0.000	0.000
ENVIRONMENTAL COMPLIANCE SERV	0.0	0.0	0.0	0.000	0.000	0.000
ENVIRONMENTAL HEALTH & ENGINEERING, INC.	0.0	0.0	0.0	0.000	0.000	0.000
ENVIRONMENTAL LEAD DETECTION, INC.	0.0	0.0	0.0	0.000	0.000	0.000
ENVIRONMENTAL STRATEGIES & MANAGE. INC.	0.0	0.0	0.0	0.000	0.000	0.000
ENVIRONMENTAL TESTING SVCS.INC	0.0	0.0	0.0	0.000	0.000	0.000
ENVIROSENSE, INC.	0.0	0.0	0.0	0.000	0.000	0.000
ENVIROTEST LABORATORY	0.0	0.0	0.0	0.000	0.000	0.000
ENZYMATICS, INC.	0.0	3.0	3.0	0.000	0.000	0.000
EPIC THERAPEUTICS, INC.	0.0	0.0	0.0	0.000	0.000	0.000
EPIX PHARMACEUTICALS, INC.	19.1	0.0	19.1	0.000	0.000	0.000
EYEGATE PHARMACEUTICALS, INC.	0.0	0.0	0.0	0.000	0.000	0.000
F. H. PETERSON MACHINE CORP.	0.0	0.0	0.0	0.000	0.000	0.000
F.X. MASSE ASSOCIATES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
FAIRVIEW HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000
FALLON CLINIC, INC.	0.0	0.0	0.0	0.000	0.000	0.000
FAULKNER HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000
FELINE HEALTH, INC.	0.0	0.0	0.0	0.000	0.000	0.000
FITCHBURG BOARD OF HEALTH	0.0	0.0	0.0	0.000	0.000	0.000
FITCHBURG STATE COLLEGE	0.0	0.0	0.0	0.000	0.000	0.000
FOLDRX PHARMACEUTICALS, INC.	0.0	0.0	0.0	0.000	0.000	0.000
FORSYTH INSTITUTE THE	0.0	7.5	7.5	0.000	0.000	0.000
FRANKLIN ANALYTICAL SERVICES	0.0	0.0	0.0	0.000	0.000	0.000

	VOLUME (cu. ft.)			ACTIVITY (curies)		
Facility Name	Transferred	In Storage	Total	Transferre	In Storage	Total
FSL ASSOCIATES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
FUSS & O'NEILL ENVIRONSCIENCE, LLC	0.0	0.0	0.0	0.000	0.000	0.000
GAETA, NEIL A.	0.0	0.0	0.0	0.000	0.000	0.000
GALANEK, MITCHELL S.	0.0	0.0	0.0	0.000	0.000	0.000
GALENEA CORPORATION	0.0	0.0	0.0	0.000	0.000	0.000
GALEOTA ASSOCIATES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
GE HEALTHCARE BIO-SCIENCES CORP.	152.4	0.0	152.4	0.140	0.000	0.140
GE HOMELAND PROTECTION, INC.	0.0	0.0	0.0	0.000	0.000	0.000
GEI CONSULTANTS, INC.	0.0	0.0	0.0	0.000	0.000	0.000
GEM ENVIRONMENTAL	0.0	0.0	0.0	0.000	0.000	0.000
GENE LOGIC, INC.	0.0	0.0	0.0	0.000	0.000	0.000
GENERAL DYNAMICS DEFENSE SYS.	0.7	0.0	0.7	0.000	0.000	0.000
GENERAL ELECTRIC COMPANY D/B/A GE HEALTH	0.0	0.0	0.0	0.000	0.000	0.000
GENETICS INSTITUTE, LLC	421.0	461.0	882.0	0.038	0.170	0.208
GENZYME BIOSURGERY	0.0	0.0	0.0	0.000	0.000	0.000
GENZYME CORPORATION	480.0	60.0	540.0	0.400	0.010	0.410
GEOSYNTEC CONSULTANTS	0.0	0.0	0.0	0.000	0.000	0.000
GEOTECHNICAL CONSULTANTS, INC	0.0	0.0	0.0	0.000	0.000	0.000
GEOTECHNICAL GROUP INC.(TGG)	0.0	0.0	0.0	0.000	0.000	0.000
GEOTECHNICAL SERVICES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
GEOTESTING EXPRESS, INC.	0.0	0.0	0.0	0.000	0.000	0.000
GOLDER ASSOCIATES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
GOLDMAN ENVIRONMENTAL CONSULT.	0.0	0.0	0.0	0.000	0.000	0.000

	VOLUME (cu. ft.)			ACTIVITY (curies)		
Facility Name	Transferred	In Storage	Total	Transferre	In Storage	Total
GPC BIOTECH, INC.	0.5	0.0	0.5	0.000	0.000	0.000
GRANGER-LYNCH CORPORATION	0.0	0.0	0.0	0.000	0.000	0.000
GRANITE MEDICAL GROUP	0.0	0.0	0.0	0.000	0.000	0.000
GREATER BOSTON LEAD PAINT TESTING	0.0	0.0	0.0	0.000	0.000	0.000
GREEN ENVIRONMENTAL CONSULTING	0.0	0.0	0.0	0.000	0.000	0.000
GUARNIERI, GREGG	0.0	0.0	0.0	0.000	0.000	0.000
GUNTLOW & ASSOCIATES	0.0	0.0	0.0	0.000	0.000	0.000
GWATHMEY, INC.	0.0	0.0	0.0	0.000	0.000	0.000
GZA GEOENVIRONMENTAL, INC.	0.0	0.0	0.0	0.000	0.000	0.000
HACK, TERRENCE C.	0.0	0.0	0.0	0.000	0.000	0.000
HALEY & ALDRICH, INC.	0.0	0.0	0.0	0.000	0.000	0.000
HALLMARK HEALTH SYSTEM, INC.	0.0	0.0	0.0	0.000	0.000	0.000
HAMILTON THORNE BIOSCIENCES	0.0	0.0	0.0	0.000	0.000	0.000
HARBOR MEDICAL ASSOCIATES, PC	0.0	0.0	0.0	0.000	0.000	0.000
HARDIN-KIGHT ASSOCIATES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
HARRINGTON MEMORIAL HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000
HARRIS, JEFFERY, W.	0.0	0.0	0.0	0.000	0.000	0.000
HARTIN, ROBERT	0.0	0.0	0.0	0.000	0.000	0.000
HARVARD ENVIRONMENTAL SERVICE	0.0	0.0	0.0	0.000	0.000	0.000
HARVARD UNIVERSITY	7.5	0.0	7.5	0.269	0.000	0.269
HARVARD VANGUARD MED. ASSOCIATES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
HAWTHORN MEDICAL ASSOCIATES	0.0	0.0	0.0	0.000	0.000	0.000
HEALTH & HUMAN SERVICES, DEPT. OF	0.0	2.0	2.0	0.000	0.000	0.000

Facility Name	VOLUME (cu. ft.)			ACTIVITY (curies)		
	Transferred	In Storage	Total	Transferre	In Storage	Total
HEART CENTER, THE	0.0	0.0	0.0	0.000	0.000	0.000
HEARTSAFE	0.0	0.0	0.0	0.000	0.000	0.000
HEMMILA, FREDERIC J.	0.0	0.0	0.0	0.000	0.000	0.000
HERLEY NEW ENGLAND	45.0	7.5	52.5	4.500	0.000	4.510
HEYWOOD HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000
HIGGINS ENVIRONMENTAL ASSOCIATES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
HOLYOKE MEDICAL CENTER, INC.	0.0	0.0	0.0	0.000	0.000	0.000
HOMEINEX CORP.	0.0	0.0	0.0	0.000	0.000	0.000
HOPEDALE CARDIOLOGY, LLP	0.0	0.0	0.0	0.000	0.000	0.000
HUSTON, GERALD F., SR.	0.0	0.0	0.0	0.000	0.000	0.000
HYGIENETICS ENVIRON. SERVICES	0.0	0.0	0.0	0.000	0.000	0.000
IBA MOLECULAR NORTH AMERICA, INC.	0.0	0.0	0.0	0.000	0.000	0.000
IDENIX (MASSACHUSETTS) INC.	0.0	7.5	7.5	0.000	0.044	0.044
IDERA PHARMACEUTICALS, INC.	23.2	7.4	30.6	0.038	0.002	0.040
IMAGING ASSOCIATES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
IMAGING CONSULTANTS, INC.	0.0	0.0	0.0	0.000	0.000	0.000
IMMUNE DISEASE INSTITUTE	60.0	7.5	67.5	0.012	0.002	0.014
IMMUNOGEN, INC.	12.2	32.0	44.2	0.067	0.062	0.129
IMPERIAL INSPECTION SERVICES	0.0	0.0	0.0	0.000	0.000	0.000
IMPLANT SCIENCES CORP.	0.0	24.7	24.7	0.000	0.000	0.000
INDUSTRIAL NUCLEAR COMPANY, INC.	0.0	0.0	0.0	0.000	0.000	0.000
INEOS NOVA LLC	0.0	0.0	0.0	0.000	0.000	0.000
INFINITY PHARMACEUTICALS, INC	70.1	3.2	73.3	0.133	0.000	0.133

	VOLUME (cu. ft.)			ACTIVITY (curies)		
Facility Name	Transferred	In Storage	Total	Transferre	In Storage	Total
INNOV-X SYSTEMS	0.0	0.0	0.0	0.000	0.000	0.000
INOTEK PHARMACEUTICAL CORPORATION	15.0	1.3	16.3	0.000	0.001	0.001
INSIGHT HEALTH CORP.	0.0	0.0	0.0	0.000	0.000	0.000
INSTITUTE FOR ENVIRONMENTAL EDUCATION, INC.	0.0	0.0	0.0	0.000	0.000	0.000
INTER MED ASSOCIATES	0.0	0.0	0.0	0.000	0.000	0.000
INTERNAL MEDICINE & CARDIOLOGY ASSOC.	0.0	0.0	0.0	0.000	0.000	0.000
IRONWOOD PHARMACEUTICALS, INC.	93.5	18.6	112.1	0.021	0.026	0.047
J & M INSPECTIONAL SVCS. INC.	0.0	0.0	0.0	0.000	0.000	0.000
JAY CASHMAN, INC.	0.0	0.0	0.0	0.000	0.000	0.000
JGI EASTERN, INC.	0.0	0.0	0.0	0.000	0.000	0.000
JHR ENVIRONMENTAL TESTING	0.0	0.0	0.0	0.000	0.000	0.000
JOHN TURNER CONSULTING, INC.	0.0	0.0	0.0	0.000	0.000	0.000
JOHNSON FOILS	0.0	0.0	0.0	0.000	0.000	0.000
JORDAN HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000
JOSLIN DIABETES CENTER, INC.	181.2	15.6	196.8	0.045	0.001	0.046
KANE, JACK	0.0	0.0	0.0	0.000	0.000	0.000
KEVILLE ENTERPRISES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
KIDDE-FENWAL, INC.	0.0	0.0	0.0	0.000	0.000	0.000
LAHEY CLINIC FOUNDATION	0.0	0.0	0.0	0.000	0.000	0.000
LANE CONSTRUCTION CORP. THE	0.0	0.0	0.0	0.000	0.000	0.000
LANTHEUS MEDICAL IMAGING, INC.	450.0	704.7	1,154.7	17.304	0.520	17.824
LAWRENCE GENERAL HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000
LAWRENCE PUMPS, INC.	0.0	0.0	0.0	0.000	0.000	0.000

	VOLUME (cu. ft.)			ACTIVITY (curies)		
Facility Name	Transferred	In Storage	Total	Transferre	In Storage	Total
LEADSAFE ENVIRONMENTAL SVCS.	0.0	0.0	0.0	0.000	0.000	0.000
LEVINSON HARRIS MEDICAL GROUP	0.0	0.0	0.0	0.000	0.000	0.000
LFR INC.	0.0	0.0	0.0	0.000	0.000	0.000
LONZA HOPKINTON, INC.	11.4	4.0	15.4	0.002	0.002	0.003
LOVELY, PAUL	0.0	0.0	0.0	0.000	0.000	0.000
LOWELL GENERAL HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000
LOWN CARDIOVASCULAR GROUP, PC	0.0	0.0	0.0	0.000	0.000	0.000
LYNCH, BERNARD	0.0	0.0	0.0	0.000	0.000	0.000
M&M LEAD INSPECTIONAL SVCS.	0.0	0.0	0.0	0.000	0.000	0.000
M/A-COM INCORPORATED	0.0	0.0	0.0	0.000	0.000	0.000
MAKOTO LIFE SCIENCES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
MALLINCKRODT, INC.	0.0	0.0	0.0	0.000	0.000	0.000
MARINE BIOLOGICAL LABORATORY	23.0	5.0	28.0	0.020	0.010	0.030
MASS. -AMHERST, UNIVERSITY OF	107.2	24.2	131.4	0.002	0.035	0.036
MASS. BIOMEDICAL INITIATIVES	0.0	0.0	0.0	0.000	0.000	0.000
MASS. -BOSTON, UNIVERSITY OF	0.0	1.0	1.0	0.000	0.001	0.001
MASS. COLLEGE OF PHARMACY	0.0	4.0	4.0	0.000	0.000	0.000
MASS. -DARTMOUTH, UNIV. OF	5.2	0.0	5.2	0.000	0.000	0.000
MASS. DEPT OF PUBLIC HEALTH	0.0	0.0	0.0	0.000	0.000	0.000
MASS. DEPT. ENVIRONMENTAL PROT	0.0	0.0	0.0	0.000	0.000	0.000
MASS. DPH CHILD LEAD POIS PREV	0.0	0.0	0.0	0.000	0.000	0.000
MASS. EMERG. MGT. AGENCY	0.0	0.0	0.0	0.000	0.000	0.000
MASS. EYE & EAR INFIRMARY	0.0	0.0	0.0	0.000	0.000	0.000
MASS. GENERAL HOSPITAL	166.8	137.6	304.4	0.075	0.017	0.092
MASS. HIGHWAY DEPARTMENT	0.0	0.0	0.0	0.000	0.000	0.000

	VOLUME (cu. ft.)			ACTIVITY (curies)		
Facility Name	Transferred	In Storage	Total	Transferre	In Storage	Total
MASS. INSTITUTE OF TECHNOLOGY	12.5	15.0	27.5	0.019	0.002	0.021
MASS. -LOWELL, UNIVERSITY OF	0.0	0.0	0.0	0.000	0.000	0.000
MASSACHUSETTS MOBILE PET, P.C.	0.0	0.0	0.0	0.000	0.000	0.000
MCARDLE GANNON ASSOCIATES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
MEDI-PHYSICS, INC. DBA GE HEALTHCARE	0.0	0.0	0.0	0.000	0.000	0.000
MERCK & CO., INC.	51.8	53.6	105.4	0.015	0.149	0.164
MERCURY THERAPEUTICS, INC.	0.0	0.0	0.0	0.000	0.000	0.000
MERCY HOSPITAL, INC., THE	0.0	0.0	0.0	0.000	0.000	0.000
MERRIMACK PHARMACEUTICALS, INC.	8.0	0.5	8.5	0.002	0.000	0.002
MERRIMACK VALLEY CARD. ASSOC.	0.0	0.0	0.0	0.000	0.000	0.000
MERRIMACK VALLEY HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000
METROWEST MEDICAL CENTER	0.0	0.0	0.0	0.000	0.000	0.000
MGI PHARMA , INC.	7.5	1.0	8.5	0.001	0.000	0.001
MICROBIA PRECISION ENGINEERING, INC.	0.0	0.0	0.0	0.000	0.000	0.000
MICROCHIPS, INC.	0.0	4.0	4.0	0.000	0.000	0.000
MICROTEST LABORATORIES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
MID-CITY SCRAP IRON & SALVAGE CO., INC.	0.0	0.0	0.0	0.000	0.000	0.000
MILFORD REGIONAL MEDICAL CENTER	0.0	0.0	0.0	0.000	0.000	0.000
MILLENNIUM PHARMACEUTICALS, INC.	343.6	7.5	351.1	0.547	0.001	0.548
MILLER ENGINEERING & TESTING, INC.	0.0	0.0	0.0	0.000	0.000	0.000

	VOLUME (cu. ft.)			ACTIVITY (curies)		
Facility Name	Transferred	In Storage	Total	Transferre	In Storage	Total
MILLER, P. TERRY	0.0	0.0	0.0	0.000	0.000	0.000
MILLER, TERRY P.	0.0	0.0	0.0	0.000	0.000	0.000
MILLIPORE CORPORATION	0.0	2.0	2.0	0.000	0.001	0.001
MILTON HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000
MINUTEMAN ENVIRONMENTAL SERVICES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
MOLECULAR INSIGHT PHARMACEUTICALS, INC.	146.0	0.0	146.0	0.945	0.000	0.945
MOMENTA PHARMACEUTICALS	0.0	4.0	4.0	0.000	0.001	0.001
MORTON HOSPITAL & MED. CENTER	0.0	0.0	0.0	0.000	0.000	0.000
MOUNT AUBURN HOSPITAL	0.7	0.0	0.7	0.000	0.000	0.000
MOUNT HOLYOKE COLLEGE	0.0	0.0	0.0	0.000	0.000	0.000
NASHOBA VALLEY MEDICAL CENTER	0.0	0.0	0.0	0.000	0.000	0.000
NAVIX DIAGNOSTIX, INC (FIXED)	0.0	0.0	0.0	0.000	0.000	0.000
NAVIX DIAGNOSTIX, INC (MOBILE)	0.0	0.0	0.0	0.000	0.000	0.000
NEUROLOGICA CORPORATION	0.0	0.0	0.0	0.000	0.000	0.000
NEUROPHYSICS CORPORATION	0.0	0.0	0.0	0.000	0.000	0.000
NEW BEDFORD HEALTH DEPARTMENT	0.0	0.0	0.0	0.000	0.000	0.000
NEW BEDFORD MEDICAL ASSOCIATE	0.0	0.0	0.0	0.000	0.000	0.000
NEW ENG. COLLEGE OF OPTOMETRY	0.0	0.0	0.0	0.000	0.000	0.000
NEW ENGLAND BAPTIST HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000
NEW ENGLAND BIOLABS, INC.	97.5	60.0	157.5	0.042	0.025	0.067
NEW ENGLAND CARDIOLOGY, LLC	0.0	0.0	0.0	0.000	0.000	0.000
NEW ENGLAND MEDICAL SPECIALISTS	0.0	0.0	0.0	0.000	0.000	0.000
NEW ENGLAND PET IMAGING SYSTM	0.0	0.0	0.0	0.000	0.000	0.000

	VOLUME (cu. ft.)			ACTIVITY (curies)		
Facility Name	Transferred	In Storage	Total	Transferre	In Storage	Total
NEW ENGLAND PET OF GREATER LOWELL	0.0	0.0	0.0	0.000	0.000	0.000
NOBLE HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000
NORFOLK COUNTY CARDIOLOGY ASSOCIATES	0.0	0.0	0.0	0.000	0.000	0.000
NORFOLK LEAD INSPECTION	0.0	0.0	0.0	0.000	0.000	0.000
NORTH ADAMS REGIONAL HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000
NORTH SHORE CARDIOVASCULAR ASSOCIATES	0.0	0.0	0.0	0.000	0.000	0.000
NORTH SHORE LEAD PAINT TEST SERVICE	0.0	0.0	0.0	0.000	0.000	0.000
NORTH SHORE MEDICAL CENTER	0.0	0.0	0.0	0.000	0.000	0.000
NORTHAMPTON CARDIOLOGY ASSOC., PC	0.0	0.0	0.0	0.000	0.000	0.000
NORTHEASTERN UNIVERSITY	40.1	8.0	48.1	0.002	0.000	0.002
NOVARTIS INST. FOR BIOMEDICAL RESEARCH	249.4	80.1	329.5	163.720	4.030	167.750
OMNIGENE BIOPRODUCTS, INC.	0.0	0.0	0.0	0.000	0.000	0.000
ORGANON RESEARCH CENTER, USA	0.0	0.0	0.0	0.000	0.000	0.000
OSRAM SYLVANIA PRODUCTS, INC.	0.0	0.0	0.0	0.000	0.000	0.000
P.A. TECHNOLOGIES, LLC	0.0	0.0	0.0	0.000	0.000	0.000
P.J. KEATING COMPANY, INC.	0.0	0.0	0.0	0.000	0.000	0.000
PALMER PAVING CORPORATION	0.0	0.0	0.0	0.000	0.000	0.000
PANTHER ENVIRONMENTAL	0.0	0.0	0.0	0.000	0.000	0.000
PARATEK PHARMACEUTICALS, INC.	0.0	0.0	0.0	0.000	0.000	0.000
PARE CORPORATION	0.0	0.0	0.0	0.000	0.000	0.000
PENTUCKET MEDICAL ASSOCIATES, LLC	0.0	0.0	0.0	0.000	0.000	0.000

	VOLUME (cu. ft.)			ACTIVITY (curies)		
Facility Name	Transferred	In Storage	Total	Transferre	In Storage	Total
PEPTIMMUNE, INC.	8.2	0.0	8.2	0.000	0.000	0.000
PERKINELMER LIFE & ANALYTI	58,168.1	602.4	58,770.4	73.630	350.300	423.930
PERKINELMER OPTOELECTRONICS	0.0	0.0	0.0	0.000	0.000	0.000
PETNET SOLUTIONS, INC.	8.6	0.1	8.7	0.001	0.050	0.051
PFIZER, INC.	17.7	90.0	107.7	0.015	0.003	0.018
PHARMA MAR USA, INCORPORATED	0.0	0.0	0.0	0.000	0.000	0.000
PHARMALUCENCE, INC.	0.0	0.0	0.0	0.000	0.000	0.000
PHILOTECHNICS, LTD	0.0	0.0	0.0	0.000	0.000	0.000
PHOTODETECTION SYSTEMS, INC.	0.0	0.0	0.0	0.000	0.000	0.000
PHOTOVAC, INC.	0.0	0.0	0.0	0.000	0.000	0.000
PINE & SWALLOW ASSOCIATES, INC	0.0	0.0	0.0	0.000	0.000	0.000
PIONEER VALLEY CARDIOLOGY, PC	0.0	0.0	0.0	0.000	0.000	0.000
PK ASSOCIATES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
PLEXUS CORPORATION	0.0	0.0	0.0	0.000	0.000	0.000
PLYMOUTH RUBBER CO., INC.	0.0	0.0	0.0	0.000	0.000	0.000
PRAECIS PHARMACEUTICALS, INC.	23.9	0.0	23.9	0.002	0.000	0.002
PRIMA CARE, P.C.	0.0	0.0	0.0	0.000	0.000	0.000
PROFESSIONAL SERV. INDUSTRIES	0.0	0.0	0.0	0.000	0.000	0.000
PROSCAN, INC.	0.0	0.0	0.0	0.000	0.000	0.000
PROTEIN FOREST, INC.	30.0	0.0	30.0	0.010	0.000	0.010
PROTZE CONSULTING ENGINEERS	0.0	0.0	0.0	0.000	0.000	0.000
QSA GLOBAL, INC.	135.0	20.3	155.3	0.171	13,118.623	13,118.794
QUALITY ASSURANCE LAB, INC.	0.0	0.0	0.0	0.000	0.000	0.000
QUINCY MEDICAL CENTER, INC.	0.0	0.0	0.0	0.000	0.000	0.000
R. P. HOLMES ENVIRONMENTAL	0.0	0.0	0.0	0.000	0.000	0.000

	VOLUME (cu. ft.)			ACTIVITY (curies)		
Facility Name	Transferred	In Storage	Total	Transferre	In Storage	Total
RADIATION MONITORING DEVICE, INC, RMD IN	0.0	0.6	0.6	0.000	1.000	1.000
RADIATION MONITORING DEVICES, INC.; RMD	0.0	0.6	0.6	0.000	1.000	1.000
RADIOCAT	0.0	0.0	0.0	0.000	0.000	0.000
RADIUS HEALTH, INC.	32.7	0.3	33.0	0.001	0.000	0.001
RAYTHEON COMPANY	0.0	0.0	0.0	0.000	0.000	0.000
RAYTHEON COMPANY	0.0	0.0	0.0	0.000	0.000	0.000
RCS LEAD PAINT DETECTION	0.0	0.0	0.0	0.000	0.000	0.000
READING CARDIOLOGY ASSOCIATES	0.0	0.0	0.0	0.000	0.000	0.000
REMSERV, INC.	0.0	0.0	0.0	0.000	0.000	0.000
REPLIGEN CORPORATION	0.0	0.0	0.0	0.000	0.000	0.000
RESIDENTIAL INSPECTION COMPANY	0.0	0.0	0.0	0.000	0.000	0.000
RESOLVYX PHARMACEUTICALS, INC.	0.0	11.6	11.6	0.000	0.000	0.000
RIVER BEND MEDICAL GROUP	0.0	0.0	0.0	0.000	0.000	0.000
RSP ASSOCIATES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
RXI PHARMACEUTICALS, INC.	22.5	0.0	22.5	0.035	0.000	0.035
S.V. HOSPITAL, L.L.C.	0.0	0.0	0.0	0.000	0.000	0.000
SAINTS MEMORIAL MED. CTR, INC. D.B.A	0.0	0.0	0.0	0.000	0.000	0.000
SANDBORN, HEAD & ASSOCIATES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
SANOFI-AVENTIS U.S., INC.	0.0	2.0	2.0	0.000	0.001	0.001
SATORI PHARMACEUTICALS INCORPORATED	0.0	0.0	0.0	0.000	0.000	0.000
SCHEPENS EYE RESEARCH INST.	0.0	0.0	0.0	0.000	0.000	0.000
SCHERING CORPORATION	0.0	0.0	0.0	0.000	0.000	0.000

	VOLUME (cu. ft.)			ACTIVITY (curies)		
Facility Name	Transferred	In Storage	Total	Transferre	In Storage	Total
SCHERING CORPORATION	0.0	0.0	0.0	0.000	0.000	0.000
SCHLUMBERGER TECHNOLOGY CORPORATION	0.0	0.0	0.0	0.000	0.000	0.000
SCINTITECH, INC.	0.0	0.0	0.0	0.000	0.000	0.000
SELECTX PHARMACEUTICALS, INC.	0.0	0.0	0.0	0.000	0.000	0.000
SEPRACOR, INC.	52.5	3.0	55.5	0.099	0.010	0.109
SHARED DIAGNOSTIC SERVICES,INC	0.0	0.0	0.0	0.000	0.000	0.000
SHIELDS IMAGING OF MASS., LLC	0.0	0.0	0.0	0.000	0.000	0.000
SHIRE HUMAN GENETIC THERAPIES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
SIEMENS HEALTHCARE DIGNOSTICS, INC.	1.2	0.0	1.2	23.000	0.000	23.000
SIEMENS MEDICAL SOLUTIONS USA, INC.	0.0	0.0	0.0	0.000	0.000	0.000
SIMMONS COLLEGE	22.5	3.0	25.5	0.004	0.001	0.005
SIONEX CORPORATION	0.0	0.0	0.0	0.000	0.000	0.000
SIRTEX WILMINGTON LLC	0.0	0.0	0.0	0.000	0.000	0.000
SIRTRIS PHARMACEUTICALS	7.5	0.0	7.5	0.000	0.000	0.000
SMITH AND WESSEL ASSOC. INC.	0.0	0.0	0.0	0.000	0.000	0.000
SMITH COLLEGE	0.0	0.0	0.0	0.000	0.000	0.000
SMITHSONIAN INSTITUTE	0.0	0.0	0.0	0.000	0.000	0.000
SOLUTIA, INC.	0.0	0.0	0.0	0.000	0.000	0.000
SOUTH SHORE CARDIOLOGY, P.C.	0.0	0.0	0.0	0.000	0.000	0.000
SOUTH SHORE HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000
SOUTH SHORE LEAD PAINT TESTING	0.0	0.0	0.0	0.000	0.000	0.000
SOUTHCOAST HOSPITAL GROUP	0.0	0.0	0.0	0.000	0.000	0.000
SPAULDING REHAB HOSPITAL	1.0	0.0	1.0	0.002	0.000	0.002

	VOLUME (cu. ft.)			ACTIVITY (curies)		
Facility Name	Transferred	In Storage	Total	Transferre	In Storage	Total
SPINCRAFT	0.0	0.0	0.0	0.000	0.000	0.000
SPRINGBORN SMITHERS LAB., INC.	212.8	17.5	230.3	0.443	0.007	0.450
SPRINGFIELD NEIGHBORHOOD HOUSING SERVICE	0.0	0.0	0.0	0.000	0.000	0.000
SPRUCE ENVIRONMENTAL TECHNOLOGIES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
SQUICOR LABS, INC.	0.0	0.0	0.0	0.000	0.000	0.000
ST. ANNE'S HOSPITAL	1.4	0.0	1.4	0.332	0.000	0.332
STARMET NMI	0.0	0.0	0.0	0.000	0.000	0.000
STERIS ISOMEDIX SERVICES	0.0	0.0	0.0	0.000	0.000	0.000
STOWE AND WOODWARD	0.0	0.0	0.0	0.000	0.000	0.000
STURDY MEMORIAL HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000
SUMMIT LTD.	0.0	0.0	0.0	0.000	0.000	0.000
SURFACE LOGIX, INC.	22.0	11.0	33.0	0.000	0.009	0.009
SYNTA PHARMACEUTICALS CORPORATION	0.0	8.5	8.5	0.000	0.003	0.003
SYNTONIX PHARMACEUTICALS, INC.	0.0	2.0	2.0	0.000	0.001	0.001
TAMFELT, INC.	0.0	0.0	0.0	0.000	0.000	0.000
TEST AMERICA LABORATORIES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
THERMO EGS GAUGING, INC.	0.0	0.0	0.0	0.000	0.000	0.000
THERMO FISHER SCIENTIFIC, INC. - ENVIRON	0.0	0.0	0.0	0.000	0.000	0.000
THERMO NITON ANALYZERS LLC	0.0	1.3	1.3	0.000	1.601	1.601
THRASOS	0.0	0.0	0.0	0.000	0.000	0.000
THYRO-CAT, LLP	0.0	0.0	0.0	0.000	0.000	0.000
TIAX LLC	0.0	0.0	0.0	0.000	0.000	0.000
TIBBETTS ENGINEERING CORP.	0.0	0.0	0.0	0.000	0.000	0.000

Facility Name	VOLUME (cu. ft.)			ACTIVITY (curies)		
	Transferred	In Storage	Total	Transferre	In Storage	Total
TOLERX	0.0	15.0	15.0	0.000	0.001	0.001
TOXIKON CORPORATION	75.7	19.5	95.2	0.041	0.005	0.046
TRANSMOLECULAR, INC.	0.0	0.0	0.0	0.000	0.000	0.000
TRC ENVIRONMENTAL CORPORATION	0.0	0.0	0.0	0.000	0.000	0.000
TRUESDALE CARDIOLOGY ASSOCIATES	0.0	0.0	0.0	0.000	0.000	0.000
TUFTS MEDICAL CENTER	79.4	30.9	110.3	0.163	0.002	0.165
TUFTS UNIVERSITY	0.0	10.0	10.0	0.000	0.005	0.005
TUFTS UNIVERSITY, SCH. OF MED.	36.4	19.2	55.6	0.083	0.012	0.095
TULCHINSKY, ILYA	0.0	0.0	0.0	0.000	0.000	0.000
TW ENVIRONMENTAL SERVICES, INC.	0.0	0.0	0.0	0.000	0.000	0.000
TYCO SAFETY PRODUCTS	0.0	0.0	0.0	0.000	0.000	0.000
TYCO SAFETY PRODUCTS WESTMINSTER	0.0	0.0	0.0	0.000	0.000	0.000
U.S. GENOMICS	0.0	0.0	0.0	0.000	0.000	0.000
UMASS MEMORIAL HEALTHALLIANCE LEOMINSTER	0.0	0.0	0.0	0.000	0.000	0.000
UMASS MEMORIAL/MARLBOROUGH HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000
UMASS/MEMORIAL HEALTH CARE	60.0	37.5	97.5	0.016	0.005	0.022
UNITECH SERVICES GROUP, INC.	2,400.0	2,000.0	4,400.0	0.635	0.530	1.165
URBAN, JERRY	0.0	0.0	0.0	0.000	0.000	0.000
US ARMY CORPS OF ENGINEERS, SHPACK SUPERFUND/FUSRAP SITE	86,770.0	0.0	86,770.0	3.340	0.000	3.340
UTS OF MASSACHUSETTS, INC.	0.0	0.0	0.0	0.000	0.000	0.000
V.I. TECHNOLOGIES, INC.	0.0	0.0	0.0	0.000	0.000	0.000

	VOLUME (cu. ft.)			ACTIVITY (curies)		
Facility Name	Transferred	In Storage	Total	Transferre	In Storage	Total
VA BOSTON HEALTH CARE SYSTEM	18.0	7.0	25.0	0.020	0.160	0.180
VALLEY SAFETY SERVICES ASSOCIATES	0.0	0.0	0.0	0.000	0.000	0.000
VANASSE, HANGEN, BRUSTLIN, INC.	0.0	0.0	0.0	0.000	0.000	0.000
VERTEX PHARMACEUTICALS, INC.	0.0	43.1	43.1	0.000	0.001	0.001
WAMPANOAG TRIBE OF GAY HEAD (AQUINNAH)	0.0	0.0	0.0	0.000	0.000	0.000
WARNER BROS., LLC	0.0	0.0	0.0	0.000	0.000	0.000
WELLESLEY COLLEGE	0.0	0.0	0.0	0.000	0.000	0.000
WEST SUBURBAN IMAGING CENTER	0.0	0.0	0.0	0.000	0.000	0.000
WESTON & SAMPSON ENGINEERS, I	0.0	0.0	0.0	0.000	0.000	0.000
WESTON SOLUTIONS, INC.	0.0	0.0	0.0	0.000	0.000	0.000
WHITEHEAD INST. FOR BIOMED RES	15.0	15.0	30.0	0.005	0.004	0.009
WILLIAM F. SULLIVAN & COMPANY, INC.	0.0	0.0	0.0	0.000	0.000	0.000
WILLIAMS COLLEGE	1.5	0.0	1.5	0.000	0.000	0.000
WINCHESTER HOSPITAL	0.0	0.0	0.0	0.000	0.000	0.000
WING MEMORIAL HOSPITAL CORPORATION	0.0	0.0	0.0	0.000	0.000	0.000
WOODARD & CURRAN, INC.	0.0	0.0	0.0	0.000	0.000	0.000
WOODARD & CURRAN, INC.	0.0	0.0	0.0	0.000	0.000	0.000
WOODS HOLE OCEANOGRAPHIC INSTITUTION	0.0	5.0	5.0	0.000	0.003	0.003
WORCESTER DEPT. OF HEALTH	0.0	0.0	0.0	0.000	0.000	0.000
WORCESTER POLYTECHNIC INST.	5.0	1.0	6.0	0.014	0.000	0.014
WTE RECYCLING, INC.	0.0	0.0	0.0	0.000	0.000	0.000
XRF CORPORATION	0.0	0.0	0.0	0.000	0.000	0.000

	VOLUME (cu. ft.)			ACTIVITY (curies)		
Facility Name	**Transferred**	**In Storage**	**Total**	**Transferre**	**In Storage**	**Total**
YANKEE ATOMIC ELECTRIC COMPANY	350.0	0.0	350.0	0.002	0.000	0.002
YANKEE ENG. & TESTING, INC.	0.0	0.0	0.0	0.000	0.000	0.000
YEE CONSULTING GROUP, INC.	0.0	0.0	0.0	0.000	0.000	0.000
GRAND TOTALS:	**183,620.9**	**6,459.8**	**190,080.8**	**412.261**	**13,482.051**	**13,894.327**

Figure 29
Commonwealth of Massachusetts
DPH Radiation Control Program
Calendar Year 2007 Radioactive Waste Survey

Part One: General Information

Licensee Name	
Radiation Safety Officer	
Street Address	
City / State / Zip Code	/ /
E-Mail Address	
Radioactive Materials License Number	__ __ - __ __ __ __
Person Completing Survey / Title	/
Telephone / Telefax	/
Certifying Official / Title	/
Signature / Telephone	/
Date of Survey Completion	

	YES	NO
In 2007, did you generate any low level radioactive waste (LLRW) **with a half-life greater than 120 days**?		
In 2007, did you transfer any licensed material for disposal at a licensed low-level radioactive waste disposal facility?		
Did your organization have any long-lived radioactive waste requiring disposal in storage either on or off site on 12/31/07?		

If you answered YES to any of the above questions complete all applicable sections of Part Two. If you answered NO to all questions, STOP HERE and return this form.

Return Address:

Department of Public Health
Radiation Control Program
529 Main St., Suite 1M2A
Charlestown, MA 02129-1121
Fax 617-242-3457
ATT: William Sellers (617) 242-3035
Please return this survey by March 1, 2008 by mail or fax

License # __ __ - __ __ __ __

Commonwealth of Massachusetts DPH Radiation Control Program
CY 2007 Radioactive Waste Survey

Part Two : Waste Generation, Storage and Disposal Information

Section A : Radioactive Waste Generated in Calendar Year 2007

Class A (other than HVLA*)	Transferred for Disposal	In Storage	Total
Volume, ft3			
Activity, curies			
Principal Isotopes			

Class B (other than HVLA*)	Transferred for Disposal	In Storage	Total
Volume, ft3			
Activity, curies			
Principal Isotopes			

Class C (other than HVLA*)	Transferred for Disposal	In Storage	Total
Volume, ft3			
Activity, curies			
Principal Isotopes			

High Volume, Low Activity Waste	Transferred for Disposal	In Storage	Total
Volume, ft3			
Activity, curies			
Principal Isotopes			

License # ____-__ ____ __ __ __

Commonwealth of Massachusetts DPH Radiation Control Program
CY 2007 Radioactive Waste Survey

Part Two : Waste Generation, Storage and Disposal Information

Section B : Radioactive Waste Generated Prior to Calendar Year 2007
That Requires Disposal AND Was Not Reported on Previous Surveys

	Transferred for Disposal	In Storage	Total
Calendar Year(s) of Generation			
Class (A, B, C or HVLA)			
Volume, ft3			
Activity, curies			
Principal Isotopes			

Part Three : Waste Minimization Statement / Plan

Has your waste minimization statement or plan, which is on file with the Massachusetts DPH Radiation Control Program, changed since last year? If you answered YES, please include your updated statement and/or plan with this survey.	YES	NO

Many pertinent 105 CMR 120 regulations may be found on the Massachusetts DPH Radiation Control Program's web page at www.state.ma.us/dph/rcp including Class A, B, and C definitions in section 105 CMR 120.299.

High Volume, Low Activity Waste. Definition - Soils, demolition rubble or other LLRW that has average concentrations of radioactive material less than or equal to the concentrations set forth in 345 CMR 1.13, Table 1.13B, and has been or would be accepted by a licensed low-level radioactive waste disposal facility.

If you need assistance completing this survey, please contact the Radiation Control Program at (617) 242-3035, Att: William Sellers.

COMMENTS AND SUGGESTIONS

Comments on this report and suggestions for future annual reports are welcome. Please send correspondence to:

Department of Public Health
Radiation Control Program
Attn: William Sellers
Schrafft Center, Suite 1M2A
529 Main St
Charlestown, MA 02129
617-242-3035 - Main
617-242-3457 - Fax