



**Solicitation Information**  
**May 1, 2015**

**RFP # 7549549**

**TITLE: Radioactive Waste Disposal, University of Rhode Island**

**SUBMISSION DEADLINE: Friday May 22, 2015 at 11:00 am (Local Time)**

<b>PRE-PROPOSAL CONFERENCE: <u>NO</u></b>
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Questions concerning this solicitation may also be e-mailed to the Division of Purchases at [thomas.bovis@purchasing.ri.gov](mailto:thomas.bovis@purchasing.ri.gov) no later than **5/11/2015 at 4:00 pm (LT)**. Questions should be submitted in a *Microsoft Word attachment*. Please reference the RFP # on all correspondence. Questions received, if any, will be posted on the internet as an addendum to this solicitation. It is the responsibility of all interested parties to download this information.

<b>SURETY REQUIRED: NO</b>
<b>BOND REQUIRED: NO</b>

**Thomas Bovis**  
**Interdepartmental Project Manager**

**Vendors must register on-line at the State Purchasing Website at [www.purchasing.ri.gov](http://www.purchasing.ri.gov) to be able to download a Bidder Certification Cover form which must accompany each offer.**

**NOTE TO VENDORS:**

**Offers received without the entire completed RIVIP Generated Bidder Certification Form attached may result in disqualification.**

**THIS PAGE IS NOT A BIDDER CERTIFICATION FORM**

**Introduction: Radioactive Material Waste Disposal Services for the University of Rhode Island (URI).**

I. Term:

The Rhode Island Department of Administration, Division of Purchases, on behalf of the University of Rhode Island (URI) is seeking a contract for the disposal of radioactive material wastes disposal services from the URI campus locations. This will be one time disposal for each fiscal year; (FY 15: 3/1/15-6/30/15 and FY 16: 7/1/15-6/30/16).

- a) Potential Respondents are advised to review all sections of this RFP carefully and to follow instructions completely, as failure to make a complete submission as described elsewhere herein may result in rejection of the proposal.
- b) In order to submit a proposal, Respondents must properly register with the State of Rhode Island. For information of registering, please see the Division's website at [www.purchasing.ri.gov](http://www.purchasing.ri.gov) and under the heading "Vendor Registration Information".
- c) All proposals shall include the Respondent's FEIN or Tax Identification number as evidenced by a W9, downloadable from the Division's website at [www.purchasing.ri.gov](http://www.purchasing.ri.gov).
- d) Alternative approaches and/or methodologies to accomplish the desired or intended results of this procurement are solicited. However, proposals which depart from or materially alter the terms, requirements, or scope of work defined by this RFP will be rejected as being non-responsive.
- e) All costs associated with developing or submitting a proposal in response to this RFP, or to provide oral or written clarification of its content shall be borne by the offeror. The State assumes no responsibility for these costs.
- f) Proposals submitted in response to this solicitation shall be considered to be irrevocable for a period of not less than ninety (90) days following the opening date, and may not be withdrawn, except with the express written permission of the State Purchasing Agent.
- g) All pricing submitted by Respondents in response to this solicitation shall be considered to be firm and fixed unless otherwise indicated herein.
- h) Proposals misdirected to other than the Division of Purchases, or which are otherwise not submitted to the Division of Purchases prior to the time of opening for any cause shall be determined to be late and shall not be accepted, opened, or considered. The official time clock is located in the reception area of the Division of Purchases, 2<sup>nd</sup> floor, One Capitol Hill, Providence, RI.
- i) In accordance with R. I. Gen. Laws § 7-1.2-1401 no foreign corporation has the right to transact business in Rhode Island until it has procured a certificate of authority so

to do from the Secretary of State (401/222-3040) [www.sos.ri.gov](http://www.sos.ri.gov). However, this is a requirement only for successful bidder (s).

- j) Respondents are advised that all documents and materials submitted to the Division of Purchases for consideration in response to this solicitation shall be considered to be public records, as defined in Title 38 Chapter 2 of the Rhode Island General Laws.
- k) Respondents should be aware of all applicable MBE requirements, as set forth in R. I. Gen. Law § 37-14.1-1, *et seq.* The State's goal is for a minimum ten per cent (10%) participation by MBE's in all State procurements. For further information, contact the State MBE Administrator at (401) 574-8253 or [charles.newton@doa.ri.gov](mailto:charles.newton@doa.ri.gov), Visit the website <http://www.mbe.ri.gov/>
- l) Interested parties are instructed to peruse the Division of Purchases web site on a regular basis, as additional information relating to this solicitation may be released in the form of an addendum to this RFP.
- m) Equal Employment Opportunity-R. I. Gen. Laws § 28-5.1 Declaration of Policy. – (a) Equal opportunity and affirmative action toward its achievement is the policy of all units of Rhode Island state government, including all public and quasi-public agencies, commissions, boards and authorities, and in the classified, unclassified, and non-classified services of state employment. This policy applies in all areas where the state dollar is spent, in employment, public service, grants and financial assistance, and in state licensing and regulation. For further information, contact the Rhode Island Equal Employment Opportunity Office, at 222-3090 or via e-mail [raymond1@gw.doa.state.ri.us](mailto:raymond1@gw.doa.state.ri.us)
- n) Subcontractors are permitted for this project, provided that the identity of the proposed subcontractor(s) and scope of the subcontractor's services are clearly stated in the Respondent's proposal.
- o) Questions concerning this solicitation may be e-mailed to the Division of Purchases in accordance with the terms and conditions expressed on the cover page of this solicitation. All questions received by the Division of Purchases shall be posted on the Division of Purchases' website as an addendum to this solicitation. It is the responsibility of all interested parties to monitor the Division of Purchases' website for updated solicitation information and addenda.
- p) The Division of Purchases reserves the right to accept or reject any or all proposals submitted in response to this solicitation, to waive minor irregularities, or to negotiate with any Respondents, as necessary, to serve the best interests of the State.

## II. Description of the waste services required:

The University currently uses radioactive materials on two (2) campuses, Kingston campus and Narragansett Bay campus, and may use them on four (4) other campuses, East Farm, Food Science and Nutrition Building, Providence CCE campus, and W. Alton Jones campus in the future. Currently, the Kingston and Narragansett campuses generate only a small amount of radioactive material waste per year however, legacy wastes were found and need to be disposed. The waste consists of dry waste, liquid waste, liquid mixed waste, sealed sources, metal waste, metal mixed waste, chemical compounds and contaminated soil. The attached spread sheet, attachment A.1 shows the current waste that is to be disposed from the Narragansett Bay campus as of November 2014. Bidders must quote entire list with the exception of the liquid mixed waste however, only 58% of the total cost will be awarded in Fiscal Year '15 through 06-30-15 and an additional funding in FY'16 is anticipated through 06-30-16. If the price is above the budgeted amounts the waste will be disposed of as an order as follows;

1. Dry waste
2. Radioactive Chemical compound
3. Liquid wastes including liquid sources
4. Sealed sources
5. Contaminated Soil
6. Metal and metal mixed waste.
7. Liquid mixed waste

Bidders must be a licensed radioactive waste vendor in RI if they reside in the state. Vendors not in RI must be a licensed vendor under an agreement state or the NRC and able to submit a reciprocity letter to the Rhode Island Department of Health (RIDOH), Radiation Control Program and provide a copy of the letter to the URI before the first shipment.

## III. Specifications:

Vendors must meet the specifications listed below to meet minimum requirements of the bid.

## A. Radioactive Waste Packaging, Transport, and Disposal Requirements

1. The preferred method of disposal for dry waste is by incineration. In addition to dry wastes, other waste streams that are provided in the attachment A must be itemized and each item must include the expected cost, disposal method, and final destination of the waste. The bidder must specify in the Attachment A.2 spreadsheet the cost of each item and reference the numbers of the items in the URI list if some items are combined for packaging efficiency. URI reserves the right in consultation with the successful bidder to self-pack the waste, if feasible, and submit the packing list to the successful bidder for review prior to shipment. The URI reserves the right to specify the disposal method for each waste stream after consultation with the successful bidder. Bidders can use 80 lbs. weight for the each dry waste item and 200 lbs. for the metal waste. These weights are estimates. Bidders are also encouraged to visit the University to review the waste prior to submitting a bid. A non-mandatory pre-bid conference date and time has been designated and that information is on the cover page of this bid.
2. Waste shall be packaged in containers meeting the requirements of 49 CFR, applicable DOT regulations. Packaged wastes must be inspected by the bidder before the shipping to assure use of USDOT approved containers, drums and packaging. If any waste needs to be repackaged or bulked the Radiation Safety Office must be consulted. The successful bidder will consult with the Radiation Safety Officer for the most appropriate and economical size waste disposal container.
3. The successful bidder shall have a manifest tracking system and must provide a certificate of the waste disposal letter within 90 days from the waste pick up. If this cannot be provided in this time frame, URI will be notified of the expected arrival date(s) of the documents from each shipment of the waste. The certificate letter must indicate the final location and date of disposal for each waste shipment and other pertinent information.
4. All vehicles used by the bidder personnel for waste transport from URI shall be owned or leased by the successful bidder. Only closed vehicles will be used to transport waste.
5. The successful bidder will provide all DOT-required transport vehicle placards if necessary and assure they are appropriately utilized prior to each waste shipment.

6. Only properly equipped trucks shall be used for transport from URI and they must be permitted with the RIDOH or notify the RIDOH per their state and or federal regulations. All vehicles used to transport wastes from URI must have all required state and federal permits and up-to-date safety inspections. The successful bidder will be required to provide proof of their State or Federal license and/or registration, each individual vehicle's permits and latest inspection report. In addition, drivers must be trained and successful bidder must have records of the appropriate trainings.
7. The successful bidder shall prepare all necessary packing lists, profiles, manifests, land disposal notifications, and other necessary shipping papers according to local, state and federal regulations. All documents will be presented to the Radiation Safety Office for review, approval, and signature before the shipment.
8. The successful bidder may not subcontract services/personnel without prior approval from the University.
9. The successful bidder shall insure that all waste is handled, segregated, marked, documented, and labeled in compliance with all state and federal regulations.
10. The successful bidder shall provide and maintain sufficient emergency response equipment to deal effectively with accidents involving radioactive materials and waste removal as required by DOT, state and federal regulations.
11. The successful bidder in submitting a bid, agrees not to make any reference to URI in any advertisements, solicitations, or announcements without the expressed written consent of the Radiation Safety Officer and the Assistant Vice President for Business Services and to grant the University the right to approve all such advertisements, solicitations, or announcements before they are circulated.

B. Required Documentation to be Included in the Bid Response:

Bidders must supply the documents listed below to meet minimum requirements of the bid.

1. Attachments

The current waste inventory is listed in Attachment A.1. Itemize the inventory (preferably by color) and attach a separate sheet as attachment A.2, explaining for each item the expected cost, disposal method(s), and final destination. Final cost must be included as well as applicable additional costs.

2. Bidder Company Information

- a. Company Information: name, address, and contact information
- b. Owner: name, address, and contact information
- c. Operator: name, address, and contact information, if different than owner
- d. EPA ID Number
- e. Permit/license: List permits/licenses awarded by any regulatory agencies
- f. Emergency phone number (24/7)
- g. The successful bidder must be authorized to transport all categories of waste listed on the attachments.
- h. Statement of compliance with Federal Motor Carrier Safety Regulations and DOT requirements
- i. Compliance history with regulatory agencies. Provide latest inspection records including notice of violation, fine, and penalty information from OSHA, DOT, EPA, and/or all state agencies throughout the country having jurisdiction over the bidder. The bidder will include copies of all documents issued by such agencies seeking fines and penalties and all settlement documents issued by such agencies. If any enforcement actions are ongoing, bidder shall so state. Include Summary and Status of Consent agreements from regulatory agencies. Numerous or major violations may be cause for bidder disqualification.
- j. Description of employee safety and compliance training program. Including OSHA, EPA, DOT training programs, and other relevant company training programs.
- k. Financial stability. The bidder company must have been in business for five consecutive years. Indicate years of operation, rating, any bankruptcy filings, and other relevant documents.
- l. Certificates of insurance must be provided upon award of bid. Example of a Statement of Compliance with Insurance Table listed below.
- m. Summary of any pending liability claims.

3. Transporter Information

Include Transporter Company Information if you are using a secondary company to transport waste. Indicate how/where these secondary transporters will be used by the bidding company. Supply the same information as for the bidding company as listed in item 2 above.

After the bid is awarded the successful bidder shall notify URI if the list of transporters changes. Only transporters pre-approved by the University may be used.

4. Emergency Plan

Each bidder will present a summary of their Emergency plan in the bid package.

5. Insurance

The successful bidder must provide insurance coverage at least as listed in the Insurance Table (last page). Prior to award, the Certificate(s) of Insurance must be submitted by the successful bidder evidencing proof of all insurance requirements.

6. Indemnification

Provide written documentation if the bidding company, any transporter, or any waste disposal facility will provide indemnification to the University to indemnify, save harmless, and defend from and against any and all environmental liabilities, claims, penalties, forfeitures, suits, and the costs and expenses incident thereto for any incident involving the transport or disposal of the waste shipments.

**C. Other Information**

Pre-Award Conference: The apparent lowest responsive, responsible, bidder will be required to attend a pre-award conference to present their bid package and answer questions from the URI and State Purchasing personnel.

## **D. Award Basis**

Bidders will be reviewed by the Technical Review Committee to ensure they have met the qualifications outlined. Bidder's proposals must include the requested items in section A.2. (Itemized inventory, expected cost, disposal methods, and final destination must be clearly explained.)

## **E. Bid Submission**

Participating bidders will need to submit a completed bid in the following format:

- RIVIP Generated Bidder Certification Cover Form
- Attachment A.1-(Itemized as detailed in section B.1.)
- Attachment A.2 (additional information relative to A.1, generated and prepared by the bidder, as stated in section B.1.)
- Attachment A.3 Bid Form; Summary of Pricing.
- Bidder Contact Information.

In addition, bidders should include an electronic copy of the above attachments with the exception of the Bidder Certification Cover Form. The electronic files should match the printed version. If they do not match, the printed copy takes precedence.

Bid submittals must be clearly labeled with the various attachments listed above and further detailed with regards to the Attachment.

## Insurance Table

With the exception of workers compensation and employers liability, Certificate(s) of Insurance must identify as the additional insured: Rhode Island Council on Postsecondary Education/University of Rhode Island, The University of Rhode Island, and The State of Rhode Island. Failure to comply with these provisions may result in rejection of the offeror's bid. Annual renewal certificates must be submitted to the URI Radiation Safety Office and the University of Rhode Island Risk Management Office. A 90-day cancellation notice is required.

TYPE OF INSURANCE	LIMITS	
General Liability Commercial General Liability (per occurrence)	Each Occurrence	\$1,000,000
	Fire Damage (Any one fire)	\$ 50,000
	Med Exp (Any one person)	\$ 5,000
	Personal & Adv. Injury	\$1,000,000
	General Aggregate	\$2,000,000
	Products	\$2,000,000
Automobile Liability Any Auto	Combined Single Limit (Each accident)	\$1,000,000
Excess Liability Umbrella Form	Each Occurrence	\$5,000,000
	Aggregate	\$5,000,000
Workers Compensation and Employers' Liability	Workers Comp	Statutory Limits
	EL Each Accident	\$1,000,000
	EL Disease ~ Each Employee	\$1,000,000
	EL Disease ~ Policy Limit	\$1,000,000
Pollution Legal Liability Note 1: Must include coverage for release of hazardous materials while in transit. Note 2: Pollution Legal Liability coverage must be maintained for a period of at least three years post termination of the agreement.	Each Loss	\$5,000,000
	Aggregate	\$5,000,000
Professional Liability Insurance (aka Errors & Omissions)	\$1,000,000 OR 5% of estimated project cost, whichever is greater.	

The following is to represent the sum total of the information submitted with document A.2 (prepared and submitted by each bidder). As stated in the bid, the current budget for Fiscal Year 2015 (period ending 6/30/15) is 58% of the total cost and Fiscal Year '16 42% (period ending 06/30/16). Award will be made to the successful qualified bidder(s) for the items in order of they are listed below within that budgeted amount.

Item 1: Dry Waste	Total Amount \$ _____
Item 2: Radioactive Chemical Compound	Total Amount \$ _____
Item 3: Liquid Wastes Including liquid sources	Total Amount \$ _____
Item 4: Sealed Sources	Total Amount \$ _____
Item 5: Contaminated Soil	Total Amount \$ _____
Item 6: Metal and metal mixed waste	Total Amount \$ _____
Item 7: Liquid Mixed waste	Total Amount \$ _____

Grand Total \$ \_\_\_\_\_

Proposals to provide the services set forth in this solicitation must be received by the Division of Purchases on or before the date and time indicated on page one of this solicitation. Responses (a clearly labeled **original** plus five (5) copies) should be mailed or hand-delivered in a sealed envelope marked with the RFP number to:

**RI Dept. of Administration  
 Division of Purchases, 2nd floor  
 One Capitol Hill  
 Providence, RI 02908-5855**

Radioactive Waste disposal information

Dry waste (Use 80 lb for each drum weight)

Drum #	Size (Gallon)	Drum type	Known isotopes	Contents	
1	55 Plastic	55 Plastic	Activated wastes, Co-60, Eu-152, Cs-137, etc	PPE, towels, gloves, vacuum bag	Outside storage
2	55 Plastic	55 Plastic	Co-57, Na-22, Cd-109, Zn-65, Cl-36, Fe-55, Ni-63, H-3, C-14	gloves, papers, PPE, plastic bags, etc. No more than 1 mCi each	Outside storage
3	55 Plastic	55 Plastic	Co-57, Na-22, Cd-109, Zn-65, Cl-36, Fe-55, Ni-63, H-3, C-14	empty or dried, and broken bottles of uranyl acetate and other trashes. No more than 1 mCi each	Outside storage
4	55 Cardboard	55 Cardboard	H-3, C-14	PPE, towels, gloves, papers, etc. no more than 10 uCi each	CBL
5	55 Plastic	55 Plastic	H-3, C-14	H-3 (2 mCi), C-14 (8 mCi). contamination clean up kits, papers, plastics, glasses, sharps, etc	Waste shed 1
6	55 Plastic	55 Plastic	H-3, C-14, unknown	H-3 (7 mCi), C-14 (1 mCi). Glass resin, contamination clean up kits, papers, plastics, glasses, sharps, plastic bag/contamination clean up?, etc	waste shed 2
7	55 Plastic	55 Plastic	H-3, C-14	H-3 (2 mCi), C-14 (2 mCi). contamination clean up kits, papers, plastics, glasses, sharps, etc	Waste shed 3
8	55 Plastic	55 Plastic	H-3, C-14	H-3 (2 mCi), C-14 (2 mCi). contamination clean up kits, papers, plastics, glasses, sharps, etc	Waste shed 4
9	55 Plastic	55 Plastic	H-3, C-14	H-3 (2 mCi), C-14 (2 mCi). contamination clean up kits, papers, plastics, glasses, sharps, etc	Waste shed 5
10	55 Plastic	55 Plastic	H-3, C-14	H-3 (2 mCi), C-14 (2 mCi). contamination clean up kits, papers, plastics, glasses, sharps, etc	Waste shed 6
11	55 Plastic	55 Plastic	H-3, C-14, Ca-45	H-3 (5 mCi), C-14 (6 mCi), Ca-45 (1 mCi). contamination clean up kits, papers, plastics, glasses, sharps, etc	Inside 1
12	55 Plastic	55 Plastic	H-3, C-14, Mn-54	H-3 (2 mCi), C-14 (1 mCi), Mn-54 (2 uCi). contamination clean up kits, papers, plastics, glasses, sharps, etc	Inside 2

13	55 Plastic	H-3, C-14	H-3 (2 mCi), C-14 (1 mCi), contamination clean up kits, papers, plastics, glasses, sharps, etc	Inside 3
14	55 Plastic	H-3, C-14, Cd-109, Ba-133, Cs-137, Co-60, Ni-63, Eu-152, Al-23	H-3 (2 mCi), C-14 (5 mCi), and rest of them are less than 1 uCi each. contamination clean up kits, papers, plastics, glasses, sharps, etc	Inside 4
15	55 Cardboard	H-3, C-14, Cd-109, Ba-133, Cs-137, Co-60, Ni-63, Eu-152, Al-23	H-3 (2 mCi), C-14 (2 mCi), and rest of them are less than 1 uCi each. contamination clean up kits, papers, plastics, glasses, sharps, etc	Inside 5
16	30 Cardboard	H-3, C-14, Cd-109, Ba-133, Cs-137, Co-60, Ni-63, Eu-152, Al-23	H-3 (2 mCi), C-14 (2 mCi), and rest of them are less than 1 uCi each. contamination clean up kits, papers, plastics, glasses, sharps, etc	Inside 6
17	30 Cardboard	H-3, C-14, Cd-109, Ba-133, Cs-137, Co-60, Ni-63, Eu-152, Al-23	H-3 (2 mCi), C-14 (2 mCi), and rest of them are less than 1 uCi each. contamination clean up kits, papers, plastics, glasses, sharps, etc	Inside 7. Still open
	30 Plastic		Contaminated soil from a New Jersey Superfund site	Waste shed

Metal waste (Use 150 lb for each drum weight)

Description	Date	Mass (g)	Activity (uCi)
Gasket Clean Up	6/21/2007		
Rabbit Tubes	6/6/1994		
"Box 2" Bunch of Stuff; little vials saved and a calibration source, see below			

Zinc 65 Chromium 102

Cobalt 60 Wire from dosimeter calibrator			
cobalt 60 Wiring (small white vials)			1.5
Contaminated Pot/Container			0.1

Europium

Aluminum Ends for Rabbit Tubes			
Irradiated Aluminum Rabbits and Wire			
Unknown Metal (disc shaped)	6/6/1994		
Unknown Metal (disc shaped)	6/6/1994		
Plastic Tube and Metal	6/6/1994		
Copper	6/6/1994		
Metal File			
Rubber with metal			

Aluminum

"Wire from the Old Days"			
Unknown (Possible Spill Clean Up); 2010-OSA			0.026
Possible RINSC Experiment; Ra22			
Unknown activated metal wastes			
Contaminated ion chamber and neutron detectors			

In a 55 Gallon steel drum

Cadmium wastes were set aside			
Cadmium Covers RAM Storage			
Cadmium Covers RAM Storage			
Cadmium			
Cadmium RAM Storage	6/6/1994		

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Cadmium Covers  
Cadmium Covers  
Cadmium

Description	Date	Mass (g)	Activity (uCi)	
Uranyl Acetate	4/10/1974	10		Bucket with Acetate
Uranyl Acetate		113		Bucket with Acetate
Uranyl Acetate		2		Bucket with Acetate
Uranium Acetate		2		Bucket with Acetate
Uranyl Acetate		113		Bucket with Acetate
Uranyl Acetate		28		Bucket with Acetate
Uranyl Acetate		113		Bucket with Acetate
Uranyl Acetate		100		Bucket with Acetate
Uranyl Acetate		25		Bucket with Acetate
Uranyl Acetate		10		Bucket with Acetate
Uranyl Acetate		113		Bucket with Acetate
Uranyl Acetate		130		Bucket with Acetate
Uranyl Acetate		28		Bucket with Acetate
Thorium Oxide		100		Bucket with Acetate
Thorium Oxide		28		Bucket with Acetate
4% Uranium Calibration Sample				Bucket with Acetate
1% Uranium Calibration Sample				Bucket with Acetate
2% Uranium Calibration Sample				Bucket with Acetate
0.5% Uranium Calibration Sample				Bucket with Acetate
Bag of Uranyl Acetate				Bucket with Acetate
Uranyl Acetate (3 bottles: one nearly empty and the others to be about 500mL)				Bucket with Acetate
uranyl acetate				contaminated bottle
uranyl acetate				contaminated bottle
uranyl acetate		2		flask
uranyl acetate				&heavy metals
7% uranyl acetate				contaminated contain.
10% uranyl acetate		20		contaminated contain.
uranyl acetate		1		small container
uranyl acetate				broken contain. Glass
uranyl acetate				small vial/bottle
uranyl acetate				glass pickle container

Material	Quantity	Weight	Source
U3O8 standard		~ 1mg	NBS, USDOC
Uranyl Acetate 5%	25		Electron Microscopy Science, Cat#22400 Cas#541-09-3
Uranyl Acetate	25		Electron Microscopy Science, Cat#22400 Cas#541-09-3
Uranyl Acetate (Brand New!)	28.35		Baker Chemical Company, 4192
Uranyl Acetate	25		Electron Microscopy Science, Cat#02240 Production #? 20301
Uranyl Acetate	113.4		Mallinckrodt Chemical Works
5% Uranyl Acetate	3		SPI CHEM
Uranyl Acetate	25		SPI CHEM
0.05% Uranyl Acetate in diH2O (in plastic tub)			
	Sep-08		
Uranyl Acetate	25		Ted Helala Inc. Product # 19481
Uranyl Acetate	30		Ted Helala Inc. Product # 1582
Uranyl Acetate	2		
Thorium Nitrate	113		Bucket 2
Uranyl Nitrate	28		Bucket 2
Uranyl Nitrate	2		Bucket 2
Uranyl Nitrate	28		Bucket 2
Uranium 235			2.40E-06 Bucket 2, need to check
Ra226			2.60E-04 Bucket 2, need to check
Thorium Nitrate	125		Bucket 2
Pb and uranyl acetate			pepper jar (glass)
Thorium Chloride			original container
uranyl acetate/Pb citrate			container X 2
uranly acetate/Pb citrate		≈2g	container
uranium nitrate, liquid		10 g	model: SL-71-14, Atomic Accessories Inc.
Thorium Nitrate			Johnson Matthey Chemicals Limited, S84225
Uranium Sulphate, sodium sulphate, uranium nitrate, sodium nitrate, thorium nitrate, sulphur (total 3 kits)			Hubbard, General Kits 3557
Europium Oxide		2 g	

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3-2 gallon bottles of mixed liquid wastes. Approximately total 5 gallons. Low activity of H-3 and C-14 but mixed with unknown chemical, pH-7

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Box Number/Description	Company	Box Serial #	Box Catalog #	Box Contents	Individual Serial #	Assay Date	Activity
1				H-3 C-14 Background			0.0045 uCi 0.046 uCi
2				H-3 C-14 Background			
3	Packard	130-129	6018914	H-3 C-14 Background	6018911 6018912 6018913	1/29/1988 1/1/1988 11/22/1995	0.0497 uCi 0.0404 uCi
4	Packard	49(3H)-49(14C)	6008500	H-3 C-14	6008512 6008513 6008511	11/22/1995 Nov-95	0.121 uCi 0.0551 uCi
5		80-271	6008500	H-3 C-14 Background		9/20/1983 8/22/1983 12/19/1983	0.129 uCi 0.0551 uCi 0.127 uCi
6		243	6008500	H-3 C-14 Background		1/8/1979 11/20/1979	0.0485 uCi
7			6008501	H-3 Series		1/12/1984	0.128 uCi per vial
8			6008502	C-14 Series		11/15/1983	0.06117 uCi per vial
9		CHOH-48	6008502			6/23/1967	
Queneched Standards (15ml) What's inside was not what was on label							
10		24(3H)-24(14C)	6018914	H-3 C-14 Background	6018911 6018912 6018913	3/16/1995 3/16/1995 Mar-95	0.0389 uCi 0.01094 uCi
Unquenched Standards (10ml) low level expiration date: 05/16/1996							
11		116(3H)-116(14C)	6008500	H-3 C-14 Background	6008512 6008513 600511	11/12/2001 11/12/2001 Nov-01	0.1026 uCi 0.5666 uCi
Unquenched Standards (15ml) expiration date: 11/12/2006							
12	Beckman	Control #: 5172	Order #: 566321	H-3 C-14			
Unquenched Standards Set "Botany" handwritten on side							

expiration date: 08/01/1982

13 85(3H)-85-(14C) 6008500 H-3 6008512 2/24/1995 0.119 uCi  
Unquenched Standards (15mL) C-14 6008513 2/24/1995 0.0599 uCi  
Background 6008511 Feb-95

14 Nickel 63 Standard Set-No. 2 Reference 59064  
Background Ni-63 (X3) 6/11/1980 < 0.06 uCi

Source	Manufacturer	SRM	Activity	Reference	Activity
Packard Tri-Carb Standards Series E, Serial No. 349 Blank, White H-3, Blue C-14, black C-136, green	Packard				
Quenched C-14			9/27/1979		0.0192 uCi
Mixed Standard		SRM 4244	1/15/1972		
C-14 source	NEN Corp.		May-60		0.271 uCi
C-14	Tracer Lab	R-10	3/1/1958		
Bi-210	Tracer Lab		2/1/1952		0.000143 uCi
C-14	NEN Corp.		May-64		1.48 uCi
Bismuth source	Nuclear Chicago	no. 184431	1952		9 uCi
Cesium-134				"Sol #1"	
Th-230				"Sol #2"	
Cs-137	Atomic Accessories Inc.			model: SL-71-13	5 uCi
Pb-210	Atomic Accessories Inc.			model: SL-71-9	1 uCi
Cs-137	Atomic Accessories Inc.			model: SL-71-10	1 uCi
Ba-133	Atomic Accessories Inc.				
C14 Sodium Bicarbonate; 127 ampoules (liquid)					5 uCi each
C14 with Gold color line Mixture; 40 ampoules					10 uCi each
C14 Box of Plastic Vials, set aside to run activity; had liquid standards					8/21/2005
C14 Radioactive Box from Denmark; liquids put with standards (28 bottles)					4 uCi each
C14 Sodium Bicarbonate 91 ampers pH=9.5					9/14/1995 5 uCi each



Description	Date	Model/Serial #	Activity	Info
1 Lab Pig G3137	4/15/1962		1 uCi	
2 Lab Pig Co60	7/30/1979		2 mCi	
3 Lab Pig Co60	6/6/1983		2 mCi	
C-14 with 87.5mL Benzene	1981		1.75 mCi	
Cobalt 60, Clear Tubes white tops: FEMA Calibration Source				
Uranium 238	6/4/1965			
Polonium 210, serial number 356	Apr-61			
cobalt 58	1973			
Tl-204	11/20/1970		\$0 uCi	Paper source
Co-57	1/1/2002	Co7.1.26.01	13.5 mCi	Should be 0.9 uCi
Co-57	1/1/2002	MC07.114/88.01	13.5 mCi	Should be 0.9 uCi

Pb-210, alpha source, gold plated thin wire roughly little over an inch  
Ra-226  
C-14  
Co-60  
Cs-137

Po-210 static eliminator (4)	11/03	Model 2U500	0.1 uCi	Cube
Po-210 static eliminator (1)	03/98	Model 2U500	1 uCi	Reference source, NEC
Po-210 static eliminator (1) Brush	11/93	Model 1C200	0.165 uCi	Reference source, Isonerve, Gamma spec results
Sr-90 CAN 1412; v-60 (on source); 2011-7 (label)	11/29/1976		0.03 uCi	Paper source
Sr-90 CAN 1412; v-199 (on source); 2011-5 (label)	8/29/1967			
Sr-90 CAN 1473; v-60 (on source); 2011-4 (label)	8/29/1967			
Sr-90 CAN 1474; v-60 (on source); 2011-6 (label); Model #301H,	8/29/1967			
S/N 1048, Aug 1965 (on back of source)				
Unknown Yellow Source (high beta?)			3 uCi	3 mR/hr
Unknown Source (beta/low gamma suspected)				1.3 mR/hr

Ni-63 ECD  
Sr-90 Taken from old survey meter  
Nickel 63 source/ ECD (Model #: G1223A)  
Ci-36 source (catalog #: 61-2208)  
Cs-137 (sealed source)  
Possible leakage?

Description	Date	Model/Serial #	Activity	Info
ECD Source Ni63	Jan-03	Model # G3797A SN U5161	15 mCi	
C-137 Source from Beckman scintillation counter	3/19/2005	Lot 1651, P/N 598860	30 uCi	Beckman
(2) Mixed Gamma	7/1/1993	A1372	nCi range	
(3) Mixed Gamma	7/1/1993	A3115	uCi range	
(4) Mixed Gamma	7/1/1993	A1374	nCi range	
(5) Mixed Gamma	7/1/1993	A1375	nCi range	
(6) Mixed Gamma	7/1/1993	A1376	nCi range	
(9) Mixed Gamma/Am241/Sr90	10/1/1999	58657A-528	2.773 uCi	

(10)	Mixed Gamma/Am241/Sr90	10/1/1999	58656-528	1.065 uCi	
(11)	Mixed GammaAm241/Sr90	10/1/1999	58655-528	1.129 uCi	
(12)	Mixed Gamma/Co60/Cs137	9/1/1977	SRM4215-E	uCi range	0.08 uCi Cs137, 0.18 uCi Co60
(13)	Na 22	8/2/1988		32.6 uCi	
(14)	Na-22	2/5/1987		1.1 uCi	
(15)	Co-60	4/29/1968	62-216	1.14 uCi	
(16)	Cs137	4/29/1968	62-213	1.14 uCi	
(18)	Mixed Gamma	1/21/2003	MGS-6SPL	1.11 uCi	
(19)	Mixed Gamma	1/21/2003	MGS-2	0.914 uCi	
(20)	Mixed Gamma	4/1/2003	65864-644	0.968 uCi	
(23)	Cs-137	4/21/1976		40 uCi	
(25)	Mixed Gamma	6/9/2005	MGS	0.140 uCi	
(26)	Mixed Gamma	1/1/2006	72472-644	0.99 uCi	
(27)	Mixed Gamma	4/1/2007	75257-791	1.0 uCi	
(28)	Cs-137	8/20/1980	CS-7A	8 uCi	
(29)	Mixed Gamma	5/21/2008	MGS-6SPL	0.897 uCi	
(36)	Mixed Beta & Gamma	no date		7.2 uCi	
(37)	Mixed Beta & Gamma	no date		7.2 uCi	
(38)	Mixed Beta & Gamma	no date		7.2 uCi	
(2)	Sr-90	12/27/1979		0.0214 uCi	
(3)	Co-60	10/15/1979		0.044 uCi	
(5)	Co-60	4/13/2005		0.0064 uCi	
(6)	Po-210	No Data		No Data	
(7)	Co-60	No Data		No Data	
(8)	Tl-204	No Data	CAN1425	No Data	
(9)	Co-60	No Data	B12-38	No Data	
(10)	Tl-204	No Data	B17-16	No Data	
(13)	C-14	11/1/1952	B14-123	0.097 uCi	
(14)	Co-60	10/1/1952	B19-46	0.0125 uCi	
(15)	Sr-90	12/8/1998	B20070	0.0621 uCi	
(16)	Co-60	No Data	B10094	No Data	
(17)	Cl-36	No Data	B1148	No Data	
(18)	C-14	No Data		No Data	
(19)	Pa234	No Data		No Data	
(20)	Co-60	4/1/1962		0.014 uCi	
(22)	C-14	4/1/1962		0.21 uCi	
(23)	Pa-234	6/1/1963		0.0071 uCi	
(24)	Sr-90	11/21/1977		0.0209 uCi	
(25)	Pm-147	11/21/1977	62-216	0.131 uCi	
(26)	Bi-210	11/21/1977	62-213	0.025 uCi	
(27)	C-14	11/21/1977	82-215	0.131 uCi	
(28)	Tc-99	11/21/1977	62-215	0.42 uCi	
(29)	Cl-36	11/21/1977		0.0214 uCi	
(30)	Co-60	4/12/1967		0.93 uCi	
(31)	Cs-137	2/23/1967		1.00 uCi	

(32) Na-22	2/16/1967		0.98 uCi
(33) N2-22	4/29/1968		1.36 uCi
(35) Co-60	4/12/2005		0.0002 uCi
(36) Ba-133	8/8/1975		0.09 uCi
(37) Cs-137	9/29/1975		0.089 uCi
(38) Na-22	11/3/1975	B18-56	0.116 uCi
(39) Co-60	9/23/1975	B16-06	0.142 uCi
(40) Cs-137	2/1/1953	B15-01	0.2 uCi
(41) Cs-137	2/1/1953	B11-20	0.2 uCi
(41A) Cs-137	2/1/1953	B13-60	0.2 uCi
(43) Sr-90	No Data	No Data	No Data
(44) Tc-99	No Data	No Data	No Data
(45) Pm-147	No Data	1269	No Data
(46) Cs-137	No Data		No Data
(47) Bi-210	No Data	184141	No Data
(48) RA D&E #1	No Data		No Data
(49) RA D&E #2	No Data		No Data
(56) Cl-36	No Data		942 betas/sec
(57) Pb214	No Data		2 uCi
(59) C-14	No Data		0.01 uCi