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Solicitation Information
February 5, 2015

ADDENDUM # 1

RFP # 7549318

TITLE: Radioactive Waste Disposal, University of Rhode Island

SUBMISSION DEADLINE: Wednesday March 4, 2015 at 11:00 am (Local Time)

Notice to Vendors:

- **Attached includes information referenced in the solicitation**

Tom Bovis
Interdepartmental Project Manager

Interested parties should monitor this website, on a regular basis, for any additional information that may be posted.

Radioactive Waste disposal information

Dry waste (Use 80 lb for each drum weight)

Drum #	Size (Gallon)	Drum type	Known isotopes	Contents	
1	55	Plastic	Activated wastes, Co-60, Eu-152, Cs-137, etc	PPE, towels, gloves, vaccum bag	Outside starage
2	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 starage
3	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 starage
4	55	Cardboard	H-3, C-14	PPE, towels, gloves, papers, etc. no more than 10 uCi each	CBLS
5	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	H-3, C-14, uknown	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	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	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	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	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	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	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			
[redacted]			
Zinc 65 Chromium 102			
[redacted]			
Cobalt 60 Wire from dosimeter calibrator			
cobalt 60 Wiring (small white vials)			
Contaminated Pot/Container			1.5
Europium			0.1
Aluminum Ends for Rabbit Tubes			
Irradiated Aluminum Rabbits and Wire			
Unknown Metal (disc shaped)			
Unknown Metal (disc shaped)	6/6/1994		
Plastic Tube and Metal	6/6/1994		
Copper	6/6/1994		
Metal File	6/6/1994		
Rubber with metal			
Aluminum			
"Wire from the Old Days"			
Unknown (Possible Spill Clean Up); 2010-OSA			
Possible RINSC Experiment; Ra22			0.026
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		

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 contam. Glass
uranyl acetate				small vial/bottle
uranyl acetate				glass pickle container

U3O8 standard		~ 1mg		NBS, USDOC
Uranyl Acetate 5%				
Uranyl Acetate		25		Electron Microscopy Science, Cat#22400 Cas#541-09-3
Uranyl Acetate (Brand New!)		25		Electron Microscopy Science, Cat#22400 Cas#541-09-3
Uranyl Acetate		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	Feb-92	3		
Uranyl Acetate	12/3/1980	25		SPI CHEM
0.05% Uranyl Acetate in diH2O (in plastic tub)	Sep-08			
Uranyl Acetate		25		Ted HeLa Inc. Product # 19481
Uranyl Acetate		30		Ted HeLa Inc. Product # 1582
Uranyl Acetate		2		
[redacted]				
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				container
uranium nitrate, liquid		≈2g		model: SL-71-14, Atomic Accessories Inc.
Thorium Nitrate		10 g		Johnson Matthey Chmicals Limited, S84225
Uranium Sulphate, sodium sulphate, uranium nitrate, sodium nitrate, thorium nitrate, sulphur (total 3 kits)				Hubbard, General Kits 3557
Europium Oxide		2 g		

[redacted]

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

Box Number/Description	Company	Box Serial #	Box Catalog #	Box Contents	Individual Serial #	Assay Date	Activity
	1			H-3			0.0045 uCi
				C-14			0.046 uCi
				Background			
	2			H-3			
				C-14			
				Background			
	3 Packard	130-129	6018914	H-3	6018911	1/29/1988	0.0497 uCi
Unquenched Standard (10mL)				C-14	6018912	1/1/1988	0.0404 uCi
low level				Background	6018913	11/22/1995	
	4 Packard	49(3H)-49(14C)	6008500	H-3	6008512	11/22/1995	0.121 uCi
Unquenched Standards (15mL)				C-14	6008513	Nov-95	0.0551 uCi
					6008511		
	5	80-271	6008500	H-3		9/20/1983	0.129 uCi
Unquenched Standards (15mL)				C-14		8/22/1983	0.0551 uCi
				Background		12/19/1983	0.127 uCi
	6	243	6008500	H-3		1/8/1979	0.0485 uCi
(15mL)				C-14		11/20/1979	
				Background			
	7	1	6008501	H-3 Series		1/12/1984	0.128 uCi
Quneched Standards (15mL)							per vial
set of 10, only 9/10 present							
Tritium Series							
	8	2	6008502	C-14 Series		11/15/1983	0.06117 uCi
Quneched Standards (15mL)							per vial
set of 10, only 9/10 present							
Carbon14 Series							
	9	CHOH-48	6008502			6/23/1967	
Quneched Standards (15mL)							
What's inside was not what was							
on label							
	10	24(3H)-24(14C)	6018914	H-3	6018911	3/16/1995	0.0389 uCi
Unquenched Standards (10mL)				C-14	6018912	3/16/1995	0.01094 uCi
low level				Background	6018913	Mar-95	
expiration date: 05/16/1996							
	11	116(3H)-116(14C)	6008500	H-3	6008512	11/12/2001	0.1026 uCi
Unquenched Standards (15mL)				C-14	6008513	11/12/2001	0.5666 uCi
expiration date: 11/12/2006				Background	600511	Nov-01	
	12						
Unquenched Standards Set	Beckman	Control #: 5172	Order #: 566321	H-3			
"Botany" handwritten on side				C-14			

expiration date: 08/01/1982					Background			
Unquenched Standards (15mL)	13		85(3H)-85-(14C)	6008500	H-3	6008512	2/24/1995	0.119 uCi
					C-14	6008513	2/24/1995	0.0599 uCi
					Background	6008511	Feb-95	
Nickel 63 Standard Set-No. 2	14				Reference	59064		
					Background		6/11/1980	
					Ni-63 (X3)			< 0.06 uCi
Packard Tri-Carb Standards		Packard					3/1/1962	
Series E, Serial No. 349							3/1/1962	
Blank, White							3/1/1962	0.03689 uCi
H-3, Blue					toluene		3/1/1962	0.0145 uCi
C-14, black					toluene		3/1/1962	0.01288 uCi
Cl-36, green					α-Benzene hexachloride			
Quenched C-14							9/27/1979	0.0192 µCi
Mixed Standard			SRM 4244				1/15/1972	
C-14 source		NEN Corp.					May-60	0.271 µCi
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 µCi
Bismuth source		Nuclear Chicago	no. 184431				1952	9 µCi
Cesium-134								
Th-230					"Sol #1"			
Cs-137					"Sol #2"			
Pb-210		Atomic Accessories Inc.		liquid	model: SL-71-13			5 µCi
Cs-137		Atomic Accessories Inc.		liquid	model: SL-71-9		Jan-61	1 µCi
Ba-133		Atomic Accessories Inc.		liquid	model: SL-71-10			1 µCi
C14 Sodium Bicarbonate; 127 ampuoles (liquid)								5 uCi each
C14 with Gold color line Mixture; 40 ampuloles								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 µCi each
C14 Sodium Bicarbonate ampers pH=9.5	91						9/14/1995	5 µCi each

Disopro pylfluorophoshate (H-3) with 0.25 mL of propylene glycol						250 uCi
C14 Sodium Bicarbonate 36 vials pH=9.5						1 µCi each
Source Cs137 in HCl		lot # 12356			4/15/1962	1 uCl
Source Co60 in HCl		lot # 12356			4/15/1962	0.1 uCi
C-14, Sodium Carbonate aqueous Solution						25 mCi
Vial of Tritium						25 uCi
Tritium Water						1.11 uCi
C-14 Scintillation standard	Beckman			CCN0806	8/24/1988	0.044 uCi
H-3 Scintillaiton Standard	Beckman			HCN0309	8/24/1988	0.044 uCi
H-3 Scintillaiton Standard	Packard				11/5/1990	0.117 uCi
Mixed Standard	DOC				Dec-79	0.54 uCi
Mixed Standard	DOC				Dec-79	0.054 uCi
U-238	EMSL		5 g	1843-2	Oct-93	2.38 nCi/g
Cs-137	EMSL		5 g	94019-1	1/23/1995	29 nCi/g
Mixed Standard	NIST		Sb-125, Eu-154, Eu-155	4276C-30	12/28/1989	5 g?
Mixed Standard	NIST		5 fiber filter with 300 ul each	4276C-30	12/28/1989	

Description	Date	Model/Serial #	Activity	Info
1 Lab Pig Cs137	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			1.75 mCi	
Cobalt 60, Clear Tubes white tops; FEMA Calibration Source	1981			
Uranium 238	6/4/1965			
Polonium 210, serial number 356	Apr-61			
cobalt 58	1973			
Tl-204	11/20/1970		50 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	MCo7.114/88.01	13.5 mCi	Should be 0.9 uCi
Ra-226 (2), Black	6/30/2010		0.74 mCi	Leaking, Need to check
Pb-210, alpha source, gold plated thin wire roughly little over an inch			0.1 uCi	
Ra-226			1 uCi	Cube
C-14	09/66		0.165 uCi	Reference source, NEC
Co-60			0.03 uCi	disk source, Isoserve, Gamma spec results
Cs-137				Paper source
Cs-137			0.04 uCi	round metal with silver foil, leaking, Gamma spec results
Po-210 static eliminator (4)	11/03	Model 2U500		NRD
Po-210 static eliminator (1)	03/98	Model 2U500		NRD
Po-210 static eliminator (1) Brush	11/93	Model 1C200		NRD
Sr90 CAN 1412; v-60 (on source); 2011-7 (label)	11/29/1976		3 uCi	
Sr90 CAN 1412; v-199 (on source); 2011- 5 (label)	8/29/1967		3 uCi	
Sr90 CAN 1473; v-60 (on source); 2011-4 (label)	8/29/1967		3 uCi	
Sr90 CAN 1474; v-60 (on source); 2011-6 (label); Model #301H, S/N 1048, Aug 1965 (on back of source)	8/29/1967		3 uCi	
UnknownYellow Source (high beta?)				3 mR/hr
Unkown Source (beta/ low gamma suspected)				1.3 mR/hr
Ni-63, ECD			15 mCi?	Possible leaking
Sr90 Taken from old survey meter	Aug-64	Model AGB S/N 1386		JORDAN Electronics
Nickel 63 source/ ECD (Model #: G1223A)	Sep-99	K5745	15 mCi	
Cl-36 source (catalog #: 61-2208)		1269	25.5 nCi	Nuclear Associates, original units: 942 β/sec
Cs-137 (sealed source)	10/13/2010	Humphrey 7-5-4	5 uCi	Humphrey
Cs137 (Placed in glass vial) 2 sources, possible leaking??			41 uCi	
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	0.0521 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	2/1/1963	B15-01	0.2 uCi
(41) Cs-137	2/1/1963	B11-20	0.2 uCi
(41A) Cs-137	2/1/1963	B13-60	0.2 uCi
(43) Sr-90	No Data		No Data
(44) Tc-99	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