



LB# 4051

AIR 14-509
NOC 921

STATE OF WASHINGTON
DEPARTMENT OF HEALTH
OFFICE OF RADIATION PROTECTION
309 Bradley Blvd., Suite 201 • Richland, Washington 99352
TDD Relay Service: 1-800-833-6388

May 20, 2014

Ms. Stacy Charboneau, Assistant Manager
For Safety and Environment
United States Department of Energy
Richland Operations Office
P.O. Box 550, MSIN: A5-14
Richland, Washington 99352

Dear Ms. Charboneau

Pursuant to Chapter 246-247 of the Washington Administrative Code (WAC), your application to operate is hereby approved according to the enclosed License for:

**Operation of the 361 Building in Testing Equipment Operability
Utilizing Radioxenon and Radon (replaced NOC 862)
(NOC 921; EU 1185)**

The conditions, controls, monitoring requirements, and limitations of this license must be observed in order for you to be in compliance with WAC 246-247. Failure to meet any provision of this license may result in the revocation of approval, the issuance of Notices of Violation, or other enforcement actions under WAC 246-247-100.

If you have any questions regarding this approval, please contact Tom Frazier at (509) 946-0774.

Sincerely,

for P. John Martell, Manager
Radioactive Air Emissions Section

Enclosure: Conditions and Limitations for EU 1185 (NOC 921)

cc: (see next page)



Ms. Stacy Charboneau
May 20, 2014
Page 2 of 2

AIR 14-509

cc: Ruth Allen, WRPS
Robert Anderson, MSA
Matthew Barnett, PNNL
Lee Bostic, BNI
Cliff Clark, USDOE-RL
Jack Donnelly, WRPS
Rick Engelmann, CHPRC
Dennis Faulk, EPA
Tom Frazier, WDOH
Phil Gent, Ecology
Dale Jackson, USDOE-RL
Reed Kaldor, MSA
Paul Karschnia, CHPRC
Ed MacAlister, USDOE-RL
Valarie Peery, Ecology
John Schmidt, WDOH
Maria Skorska, Ecology
Jeff Voogd, WRPS
Joan Woolard, WRPS
Davis Zhen, EPA
Environmental Portal
RAES Tracking: Line 857; NOC 921; EU 1185

Emission Unit ID: 1185

300

361 Building

This is a MINOR, FUGITIVE, non-point source emission unit.

300 Diffuse/Fugitive Emissions

Abatement Technology ALARACT WAC 246-247-040(4)

state only enforceable: WAC 246-247-010(4), 040(5), 060(5)

Zone or Area	Abatement Technology	Required # of Units	Additional Description
None	None		

Monitoring Requirements

state enforceable: WAC 246-247-040(5), 060(5), and federally enforceable: 40 CFR 61 subpart H

Federal and State Regulatory	Monitoring and Testing Requirements	Radionuclides Requiring Measurement	Sampling Frequency
WAC 246-247-075[3]	Determined using 40 CFR 61 Appendix D calculations in lieu of monitoring	As listed in condition 3 of this emission unit.	Inventory

Sampling Requirements The radioactive material inventory will be tracked through out the year to ensure that the yearly emission limit is not exceeded.

Additional Requirements

Additional monitoring or sampling requirements established by this License will be listed in the Conditions and Limitations section, if applicable.

Operational Status The 361 Building provides a space to house monitoring instrumentation.

This Emission Unit has 1 active Notice(s) of Construction.

Project Title	Approval #	Date Approved	NOC_ID
Operation of the 361 Building in Testing Equipment Operability Utilizing Radioxenon and Radon (replaced NOC 862)	AIR 14-509	5/20/2014	921

Conditions (state only enforceable: WAC 246-247-040(5), 060(5) if not specified)

- The total abated emission limit for this Notice of Construction is limited to 9.00E-04 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)).
- The 361 Building is pre-cast concrete portable equipment shelter that is permanently located in the southwest corner of the 300 Area on the Hanford Site. Sampling equipment (i.e., Swedish Automatic Unit for Noble gas and Acquisition and analysis [SAUNA] samples atmospheric gases, some of which may be radioactive. Periodically radioactive gases/materials will be used to confirm operability of the instrument. The SAUNA is a collection and analysis system. Gases/materials are consumed by the system, analyzed, transferred to an archive storage bottle, and then finally released by evacuating the archive bottle in to the room air space. Other radioactive gases/materials may also be utilized by the project.
- The PTE for this project as determined under WAC 246-247-030(21)(a-e) [as specified in the application] is 9.00E-04 mrem/year. Approved are the associated potential release rates (Curies/year) of:

Alpha - 0	Gas	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		
Beta - 0	Gas	WAC 246-247-030(21)(a)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		

The radioactive isotopes identified for this emission unit are (no quantities specified):

Ac - 225	Ac - 227	Ac - 228	Ag - 108 m	Ag - 108
Ag - 109 m	Ag - 110 m	Ag - 110	Ag - 111	Al - 26
Al - 28	Am - 241	Am - 242 m	Am - 242	Am - 243

Am - 245	Am - 246	Ar - 37	Ar - 39	Ar - 41
Ar - 42	As - 74	As - 76	As - 77	At - 217
Au - 195	Au - 198	Au - 198 m	Ba - 131	Ba - 133
Ba - 133 m	Ba - 137 m	Ba - 139	Ba - 140	Ba - 141
Ba - 142	Ba - 143	Be - 10	Be - 7	Bi - 207
Bi - 208	Bi - 210 m	Bi - 210	Bi - 211	Bi - 212
Bi - 213	Bi - 214	Bk - 247	Bk - 249	Bk - 250
Br - 82	Br - 82 m	Br - 83	Br - 84	Br - 84 m
Br - 85	C - 11	C - 14	C - 15	Ca - 41
Ca - 45	Ca - 47	Cd - 107	Cd - 109	Cd - 111 m
Cd - 113 m	Cd - 113	Cd - 115 m	Cd - 115	Cd - 117
Cd - 117 m	Ce - 139	Ce - 141	Ce - 142	Ce - 143
Ce - 144	Cf - 249	Cf - 250	Cf - 251	Cf - 252
Cl - 36	Cm - 241	Cm - 242	Cm - 243	Cm - 244
Cm - 245	Cm - 246	Cm - 247	Cm - 248	Cm - 250
Co - 56	Co - 57	Co - 58	Co - 60	Co - 60 m
Cr - 49	Cr - 51	Cr - 55	Cs - 131	Cs - 132
Cs - 134	Cs - 134 m	Cs - 135	Cs - 136	Cs - 137
Cs - 138	Cs - 139	Cs - 140	Cs - 141	Cu - 64
Cu - 66	Dy - 159	Dy - 165	Dy - 169	Er - 169
Er - 171	Es - 254	Eu - 150	Eu - 152	Eu - 152 m
Eu - 154	Eu - 155	Eu - 156	Eu - 157	F - 18
Fe - 55	Fe - 59	Fr - 221	Fr - 223	Ga - 67
Ga - 68	Ga - 70	Ga - 72	Gd - 148	Gd - 149
Gd - 151	Gd - 152	Gd - 153	Ge - 68	Ge - 71
Ge - 71 m	Ge - 75	Ge - 77	Ge - 77 m	H - 3
Hf - 175	Hf - 178 m	Hf - 179 m	Hf - 181	Hf - 182
Hg - 203	Ho - 163	Ho - 166	Ho - 166 m	I - 122
I - 123	I - 125	I - 126	I - 128	I - 129
I - 130	I - 130 m	I - 131	I - 132	I - 132 m
I - 133	I - 133 m	I - 134	I - 134 m	I - 135
In - 106	In - 111	In - 113 m	In - 114 m	In - 114
In - 115	In - 115 m	In - 116	In - 116 m	In - 117
In - 117 m	Ir - 192	K - 40	K - 42	Kr - 81
Kr - 81 m	Kr - 83 m	Kr - 85	Kr - 85 m	Kr - 87
Kr - 88	Kr - 89	Kr - 90	La - 137	La - 138
La - 140	La - 141	La - 142	La - 144	Lu - 177
Lu - 177 m	Mg - 27	Mg - 28	Mn - 52	Mn - 54
Mn - 56	Mo - 103	Mo - 104	Mo - 105	Mo - 93
Mo - 99	N - 13	Na - 22	Na - 24	Na - 24 m
Nb - 100	Nb - 101	Nb - 103	Nb - 91	Nb - 91 m

Nb - 92	Nb - 93 m	Nb - 94	Nb - 95	Nb - 95 m
Nb - 97	Nb - 97 m	Nb - 98	Nd - 144	Nd - 147
Ni - 56	Ni - 59	Ni - 63	Ni - 65	Np - 235
Np - 236	Np - 237	Np - 238	Np - 239	Np - 240
Np - 240 m	O - 15	O - 19	Os - 191	P - 32
P - 33	Pa - 231	Pa - 233	Pa - 234	Pa - 234 m
Pb - 209	Pb - 210	Pb - 211	Pb - 212	Pb - 214
Pd - 103	Pd - 107	Pd - 109	Pm - 143	Pm - 144
Pm - 145	Pm - 146	Pm - 147	Pm - 148 m	Pm - 148
Pm - 149	Pm - 151	Po - 208	Po - 209	Po - 210
Po - 211	Po - 212	Po - 213	Po - 214	Po - 215
Po - 216	Po - 218	Pr - 143	Pr - 144	Pr - 144 m
Pu - 234	Pu - 236	Pu - 237	Pu - 238	Pu - 239
Pu - 240	Pu - 241	Pu - 242	Pu - 243	Pu - 244
Pu - 246	Ra - 223	Ra - 224	Ra - 225	Ra - 226
Ra - 228	Rb - 81	Rb - 83	Rb - 84	Rb - 86
Rb - 87	Rb - 88	Rb - 89	Rb - 90	Rb - 90 m
Re - 186	Re - 187	Re - 188	Rh - 101	Rh - 102
Rh - 102 m	Rh - 103 m	Rh - 104	Rh - 105	Rh - 105 m
Rh - 106	Rn - 219	Rn - 220	Rn - 222	Rn - 224
Ru - 103	Ru - 105	Ru - 106	Ru - 97	S - 35
Sb - 122	Sb - 124	Sb - 125	Sb - 126	Sb - 126 m
Sb - 127	Sb - 129	Sc - 44	Sc - 46	Sc - 47
Se - 75	Se - 79	Se - 79 m	Si - 31	Si - 32
Sm - 145	Sm - 146	Sm - 147	Sm - 148	Sm - 151
Sm - 153	Sm - 157	Sn - 113	Sn - 117 m	Sn - 119 m
Sn - 121 m	Sn - 121	Sn - 123	Sn - 125	Sn - 126
Sr - 85	Sr - 87 m	Sr - 89	Sr - 90	Sr - 91
Sr - 92	Ta - 179	Ta - 180	Ta - 182	Ta - 182 m
Ta - 183	Tb - 157	Tb - 158	Tb - 160	Tb - 161
Tc - 101	Tc - 103	Tc - 106	Tc - 95 m	Tc - 95
Tc - 97	Tc - 97 m	Tc - 98	Tc - 99	Tc - 99 m
Te - 121 m	Te - 121	Te - 123	Te - 123 m	Te - 125 m
Te - 127 m	Te - 127	Te - 129 m	Te - 129	Te - 131
Te - 131 m	Te - 132	Te - 133	Te - 133 m	Te - 134
Th - 227	Th - 228	Th - 229	Th - 230	Th - 231
Th - 232	Th - 233	Th - 234	Ti - 44	Ti - 45
Ti - 51	Tl - 201	Tl - 204	Tl - 206	Tl - 207
Tl - 208	Tl - 209	Tm - 168	Tm - 170	Tm - 171
U - 232	U - 233	U - 234	U - 235	U - 236
U - 237	U - 238	U - 239	U - 240	V - 48

V - 49	W - 181	W - 185	W - 187	W - 188
Xe - 122	Xe - 123	Xe - 125	Xe - 127	Xe - 127 m
Xe - 129 m	Xe - 131 m	Xe - 133	Xe - 133 m	Xe - 135
Xe - 135 m	Xe - 137	Xe - 138	Xe - 139	Y - 88
Y - 90	Y - 90 m	Y - 91	Y - 91 m	Y - 92
Y - 93	Yb - 164	Yb - 169	Yb - 175	Yb - 177
Zn - 65	Zn - 69	Zn - 69 m	Zr - 100	Zr - 88
Zr - 89	Zr - 93	Zr - 95	Zr - 97	Zr - 98
Zr - 99				

The potential release rates described in this Condition were used to determine control technologies and monitoring requirements for this approval. DOE must notify the Department of a "modification" to the emission unit, as defined in WAC 246-247-030(16). DOE must notify the Department of any changes to a NESHAP major emission unit when a specific isotope is newly identified as contributing greater than 10% of the potential TEDE to the MEI, or greater than 25% of the TEDE to the MEI after controls. (WAC 246-247-110(9)) DOE must notify the Department of any changes to potential release rates as required by state or federal regulations including changes that would constitute a significant modification to the Air Operating Permit under WAC 173-401-725(4). Notice will be provided according to the particular regulation under which notification is required. If the applicable regulation(s) does not address manner and type of notification, DOE will provide the Department with advance written notice by letter or electronic mail but not solely by copies of documents.

- 4) Monitoring - The gross alpha and gross beta release rates will be confirmed via 40 CFR 61, Appendix D calculations in lieu of monitoring. WAC 246-247-040(5), -060(5)
- 5) RADIONUCLIDES - Activities at the 361 Building will be assessed to ensure that no radionuclides are handled that are not listed in this license. If any activity at the 361 Building results in a new radionuclide being handled at the building, a written notification will be made to the Washington State Department of Health (email is acceptable). [WAC 246-247-060(5)]