NH Radiological Samples Collected and Results for Year 2010

Specimen Collected	Analysis Method	No. of Samples Collected	Frequency	Locations*	Acceptable Limit (pCi/kg) **	Results	Explanation
Marine Samples							
Fin Fish	Gamma	2	Semiannual	Hampton offshore	I-131 < 4600, I-133 < 189000; Cs-134 & 137 < 32000; Ru-103 < 184000; Ru-106 < 12000; Am-241 < 54; Te-132 < 119000; Ba-140 < 186000, Co-60 < 838000	No additional radioactivity associated with either SNPS or VYNPS operations leading to doses even a small fraction of the annual dose limit	Naturally occurring radioisotopes
Lobster	Gamma	3	Semiannual	Hampton/Seabrook	I-131 < 4600, I-133 < 189000; Cs-134 & 137 < 32000; Ru-103 < 184000; Ru-106 < 12000; Am-241 < 54; Te-132 < 119000; Ba-140 < 186000, Co-60 < 838000	No additional radioactivity associated with either SNPS or VYNPS operations leading to doses even a small fraction of the annual dose limit	Naturally occurring radioisotopes
Mussel (Large)	Gamma	3	Semiannual	Hampton/Seabrook	I-131 < 4600, I-133 < 189000; Cs-134 & 137 < 32000; Ru-103 < 184000; Ru-106 < 12000; Am-241 < 54; Te-132 < 119000; Ba-140 < 186000, Co-60 < 838000	No additional radioactivity associated with either SNPS or VYNPS operations leading to doses even a small fraction of the annual dose limit	Naturally occurring radioisotopes
Mussel (Small)	Gamma	3	Semiannual	Hampton/Seabrook	I-131 < 4600, I-133 < 189000; Cs-134 & 137 < 32000; Ru-103 < 184000; Ru-106 < 12000; Am-241 < 54; Te-132 < 119000; Ba-140 < 186000, Co-60 < 838000	No additional radioactivity associated with either SNPS or VYNPS operations leading to doses even a small fraction of the annual dose limit	Naturally occurring radioisotopes
Seawater	Gamma	12	Monthly	Hampton offshore	I-131 < 4600, I-133 < 189000; Cs-134 & 137 < 32000; Ru-103 < 184000; Ru-106 < 12000; Am-241 < 54; Te-132 < 119000; Ba-140 < 186000, Co-60 < 838000	No additional radioactivity associated with either SNPS or VYNPS operations leading to doses even a small fraction of the annual dose limit	Gamma radioisotopes of terrestrial, cosmogenic, and nuclear weapon testing origin
Sand and Sediment (From depths: 0-5 cm, 5-10 cm, and 10-15 cm)	Gamma	30	Semiannual	Hampton, Seabrook beach and offshore	I-131 < 4600, I-133 < 189000; Cs-134 & 137 < 32000; Ru-103 < 184000; Ru-106 < 12000; Am-241 < 54; Te-132 < 119000; Ba-140 < 186000, Co-60 < 838000	No additional radioactivity associated with either SNPS or VYNPS operations leading to doses even a small fraction of the annual dose limit	Gamma radioisotopes of terrestrial, cosmogenic, and nuclear weapon testing origin
Farm and Municipal Samples							
Milk	Gamma	48	Monthly/ Quarterly	Eight (8) dairy farms located in Concord, Mont Vernon, Lebanon Stratham, Kensington, Hampton Falls, Lee, Chesterfield, Hindsdale	I-131 < 4600, I-133 < 189000; Cs-134 & 137 < 32000; Ru-103 < 184000; Ru-106 < 12000; Am-241 < 54; Te-132 < 119000; Ba-140 < 186000, Co-60 < 838000	No additional radioactivity associated with either SNPS or VYNPS operations leading to doses even a small fraction of the annual dose limit	Gamma radioisotopes of terrestrial, cosmogenic, and nuclear weapon testing origin
Animal Feed (Silage)	Gamma	16	Semiannual	Same as milk farms	I-131 < 4600, I-133 < 189000; Cs-134 & 137 < 32000; Ru-103 < 184000; Ru-106 < 12000; Am-241 < 54; Te-132 < 119000; Ba-140 < 186000, Co-60 < 838000	No additional radioactivity associated with either SNPS or VYNPS operations leading to doses even a small fraction of the annual dose limit	Gamma radioisotopes of terrestrial, cosmogenic, and nuclear weapon testing origin

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Composite Deposition Wipes	Gamma	20	Quarterly	Five (5) stations - Kensington, Hampton, Chesterfield, Hinsdale, and Winchester	I-131 < 4600, I-133 < 189000; Cs-134 & 137 < 32000; Ru-103 < 184000; Ru-106 < 12000; Am-241 < 54; Te-132 < 119000; Ba-140 < 186000, Co-60 < 838000	No additional radioactivity associated with either SNPS or VYNPS operations leading to doses even a small fraction of the annual dose limit	Gamma radioisotopes of terrestrial, cosmogenic, and nuclear weapon testing origin
Particulate Air Filter	Alpha/Beta	60	Monthly	Five (5) stations same as above	> 1 pCi/m^3 (Gamma scan performed)	0.001 - 0.11 pCi/m^3 (alpha) 0.00 - 0.13 pCi/m^3 (beta)	Within historical range†
Deposition Wipes	Alpha/Beta	60	Monthly	Five (5) stations same as above	1 - 5 pCi/cm^2 (alpha/beta)	0.003 - 0.15 pCi/m^2 (alpha) 0.00 - 0.16 pCi/m2 (beta)	Within historical range
Farm Water††	Alpha/Beta	14	Quarterly	Same as milk farms	15 pCi/L for gross alpha, 50 pCi/L for gross beta	0 - 3 pCi/L (alpha) 0 - 16 pCi/L (beta)	Within historical range
Other Samples							
Tritium in Sea Water	Liquid Scintillation	12	Monthly	Hampton offshore	500 pCi/L	all samples <500 pCi/L	Within historical range
Tritium in River Water (Connecticut River)	Liquid Scintillation	534	Weekly - Quarterly †††	Connecticut River near Hinsdale	500 pCi/L	all samples <500 pCi/L	Within historical range
Direct Gamma	Thermolumine-scent Dosimeter	400	Quarterly	65 stations statewide	100 mrem per year***	19 - 24 merm per quarter†	Within historical range
US EPA's RadNET	Gross Alpha/Beta	104	Biweekly	Concord	EPA's Screening Level > 1 pCi/m^3 (gamma scan performed)	0 - 10 pCi/m^3	Within historical range
TOTAL		**1321**					

*Above samples were collected from the following 22 locations: (1) Concord, (2) Hampton, (3) Kensington, (4) Hampton Falls, (5) Seabrook, (6) South Hampton, (7) Exeter, (8) Hampton and Seabrook offshore, (9) Portsmouth, (10) Stratham, (11) Lee, (12) Chesterfield, (13) Winchester, (14) Westmoreland, (15) West Swanzey, (16) Hiinsdale, (17) North Hinsdale, (18) Keene, (19) Richmond, (20) Mont Vernon, (21) Lebanon and (22) Connecticut River.

† Average results near the nuclear power plants are similar to those farther from the plants (beyond 50 miles).

** Acceptable limit for radionuclides are expressed in picocurie per kilogram (pCi/kg).

*** This limit covers exposure to man-made radiation of all types, except those arising from medical procedures, and any background (natural) radiation.

†† No gamma analysis was carried out on the farm water samples unless the gross alpha activity concentration was above 35 pCi/L

††† Water from Conn. River was sampled weekly during the first couple of months of 2010, gradually the frequency was changed to monthyly and then quarterly