AREVA NP

an AREVA and Siemens company

Nuclear Parts Center
3315-A Old Forest Road
P.O. Box 10935
Lynchburg, VA. 24506-0935
Telephone (434) 832-2998
Fax (434) 832-2953

IW018
11005628

May 1, 2006
06-018

Margaret M. Doane
Deputy Director
Office of International Programs
U.S. Nuclear Regulatory Commission
Mail Stop O4E21
Washington, DC 20555-0001

Subject: Radioactive Waste Import License Application - Background

Dear Ms. Doane:

In the spring of 2004, AREVA NP Inc. (formerly known as Framatome ANP, Inc.)entered into a contract with Dominion Generation to build a replacement set of spare Reactor Coolant Pump (RCP) internals. The contract involved sending an old pump internals from Surry to our SOMANU hot workshop in France, where it would be decontaminated and inspected for overall condition. This process was expected to generate waste products in the form of contaminated protective clothing, rags and resin byproducts. Our contract also called for all waste products to be returned to the Surry Nuclear Station for storage or disposal.

Attached to this cover letter is an application for an import license for this material. In order to comply with existing French regulations, and our contract with Dominion Generation/Surry Nuclear Power Plant, we need to bring this material back into the country, and return it to Surry.

Also, please find below additional explanation for two barrels of contaminated rags, gloves and etc that inadvertently got shipped (and received) by AREVA NP in 2004.

> By late summer of 2004, Somanu had already generated several barrels worth of compactable, contaminated waste products. At this same time, AREVA NP had also contracted with Somanu to receive some contaminated equipment needed for its newly opened Pump and Motor Service Center in Lynchburg, VA. Preparations were made in France to send a shipment of equipment in a Type-A 20' SeaLand – the same shipping container in which the Surry internals had traveled to France. As there was extra room in this shielded container, the workers at Somanu, in an effort to be efficient, included two barrels of compactable waste products (gloves, clothing and rags), identifying the contents of the containers as "Technological Components." The containers arrived in Lynchburg in late September, and at that time, AREVA NP believed the 'Technological Components" to be part of the equipment being shipped.
>
> When the SeaLand was unloaded, it was discovered that the two barrels actually contained the compactable waste described above. As this was deemed a contractual error, AREVA NP then notified Somanu not to ship any more waste products to Lynchburg. The two barrels were stored in a secure temporary location until such a time as arrangements could be made to ship them to Surry.

IW018
1100562

As AREVA NP was not yet expecting shipments of waste products on this contract, the need for an Import License had not yet been investigated. It was not until spring of 2005, when actual preparations were begun to return the balance of Surry's waste from France, that it was discovered that an Import License may have been required in order to bring this type of waste products into the US.

The materials described in this explanation have been included, for reference, on the attached Import License Application. Should there be any additional questions, please do not hesitate to contact me at 434-832-2651 or brian.lindauer@areva.com.

Sincerely,

Brian Lindauer
RCP Technical Specialist
AREVA NP Inc.
An AREVA and Siemens company

L-W018
1100562B

AREVA NP

an AREVA and Siemens company

Nuclear Parts Center
3315-A Old Forest Road
P.O. Box 10935
Lynchburg, VA 24506-0935
Telephone (434) 832-2998
Fax (434) 832-2953

May 1, 2006
06-019

Margaret M. Doane
Deputy Director
Office of International Programs
U.S. Nuclear Regulatory Commission
Mail Stop O4E21
Washington, DC 20555-0001

Subject: Radioactive Waste Import License Application

Dear Ms. Doane:

AREVA NP requests, under 10 CFR 110.20 (a)(2) and 10 CFR 110.32, the issuance of a license to import material as described below:

(a) Applicant: AREVA NP
3315 Old Forest Rd
Lynchburg, VA 24506

(b) Supplier: Somanu
Z.A.C. de Grevaux les Guides
59600 Maubeuge – France

(c) Country of Origin: United States of America
Processing Countries: France

(d) Intermediate Consignee: None

(e) Shipment Dates: First – August, 2004
Last – To Be Determined

AREVA NP intends to ship the waste described below in one shipment, to be done when all necessary regulations have been fulfilled.

(f) Material Description: Compactable DAW (Dry Activated Waste – gloves, rags, etc) material and resins contaminated with attached isotopic mix*.

*Isotopic mix is calculated, via standard industry practice, by specialty software (Megashield) designed to account for decontamination processes and resulting isotopic decay.

I W018
1100562B

Volume:

Container	Location	Waste Desc.	Volume (Liters)	Gross Weight** (Kg's)	Dose Rate on contact (mrem/h)	Dose rate @ 1 meter (mrem/h)	Activity (mCi)	Class
Barrel 1 (2005)	France	DAW	200	70	75	2.5	180.09	A
Barrel 2 (2005)	France	DAW	200	64	48	3	115.29	A
Barrel 3 (2005)	France	DAW	200	70	31	1.1	74.25	A
Barrel 4 (2005)	France	DAW	200	77	33	0.7	79.11	A
Resin Tank	France	Resins	110	88	30,000	Can be calculated***	5518	C
Bag 1	France	DAW	10	1.5	500	N/A	63.99	C
Bag 2	France	DAW	10	2	700	N/A	89.91	C
Bag 3	France	DAW	10	1.5	2000	N/A	256.77	C
Bag 4	France	DAW	10	2	400	N/A	51.3	C
Bag 5	France	DAW	10	5	3500	N/A	783	C
Barrel 1 (2004)	Lynchburg	DAW	200	118	250	6.5	31.62	A
Barrel 2 (2004)	Lynchburg	DAW	200	46	25	0.7	2.86	A

**Gross weight of waste in barrels includes the weight of the barrel (16.7 kg each).
***SOMANU provided measurements taken when resins were put into their drum: standard conversion formulas have to be applied to convert data into SURRY or US standard units

Physical and Chemical characteristics: Compactable material, such as rubber gloves, cotton protective clothing and cloth rags, is contaminated with decontamination residue from physical decontamination of reactor coolant pump internals. The resins are a polystyrene based cation exchanger identified as NRW-160 (see attached product description). These resins are contaminated with decontamination residue from chemical decontamination of reactor coolant pump internals.

Route of Transit:

Disposition A: By sea (from France) to Eastern U.S. port; From U.S. port by truck to Lynchburg, VA (to collect two barrels already at Lynchburg); From Lynchburg, VA by truck to Duratek; From Duratek by truck to Barnwell.

Disposition B: By sea (from France) to Eastern U.S. port; From U.S. port by truck to Lynchburg, VA. From Lynchburg, VA by truck to Duratek and Surry, VA.

FW018
1100528

Disposition:

Disposition A: DAW and resins go to Duratek for processing. Then, they go from Duratek to Barnwell for burial.

Disposition B: DAW goes to Duratek for processing. Then from Duratek to Barnwell. Resins go to Surry for incorporation into Surry Nuclear Power Station's resin holding tank.

Generating Process: This waste was generated from the chemical and physical decontamination of Dominion Generation/Surry Power Station's Reactor Coolant Pump. The contamination on the RCP was generated by the contamination present in the reactor coolant circuit of Surry's Unit 1 Reactor.

Need Date: All waste currently in France will come in the same 20' shipping container. Due to the French laws governing the storage of foreign waste, the quickest possible resolution is requested.

If more information is required, please contact me at 434-832-2651 or brian.lindauer@areva.com.

Sincerely,

Brian Lindauer
RCP Technical Specialist
AREVA NP Inc.
An AREVA and Siemens company

LW01Y
1100562Y

MAR 99

NRW-160

Macroporous Strong Acid Cation-Exchange Resin
(FOR THE TREATMENT OF RADIO-ACTIVE SOLUTIONS)

Technical Data

PRODUCT DESCRIPTION

Purolite NRW-160 is a macroporous polystyrene sulphonate cation exchanger designed to be mechanically strong and capable of withstanding conditions of considerable stress (thermal and oxidative) such as those found in the treatment of radio-active circuits and waste water. The high capacity and ion selectivity of **Purolite NRW-160** especially for Caesium 137 makes this the resin of choice where such radio-active isotopes need to be concentrated before disposal. This resin also has extremely fast kinetics when compared with other macroporous strong acid cation resins. **Purolite NRW-160-Li7**, the Lithium (isotope) form of this resin, is also useful for the decontamination of primary cooling circuits conditioned with Lithium-7 hydroxide. As the Lithium-6 isotope can produce tritium by neutron capture, Lithium-7 is often preferred.

Purolite NRW-160 may be used on its own for removal of traces of heavy metals or in a mixed bed system such as **Purolite NRW-354** which offers complete demineralisation for the radio-active solution. Alternatively **Purolite NRW-160** may be combined in a mixed bed unit with **Purolite NRW-500** and in this case offers the possibility of separation and regeneration. Special grades of the Purolite **NRW-160** and **Purolite NRW-500** can be supplied to improve resin separation prior to regeneration.

Typical Chemical and Physical Characteristics

Polymer Structure	**Macroporous polystyrene crosslinked with divinylbenzene**
Appearance	**Spherical beads**
Functional Groups	**Polystyrene Sulphonate**
Ionic Form - as shipped	**Hydrogen - H^+ [99.9%]**
Total Capacity (H^+ Form)	**2.1 eq/l min**
Moisture Retention (H^+ Form)	**43-48%**
Bead Size Range (microns)	**+1200 <2%, -420 <2%**
Screen Size Range (U.S. Standard Screen)	**16-40 mesh, wet**
Reversible Swelling ($Na^+ \rightarrow H^+$)	**4%**
Specific Gravity (H^+ Form)	**1.21**
Shipping Weight	**760-800 kg/m³ (47.5-50 lb/ft³)**
Temperature Limit (Na^+ Form)	**140°C (285°F)**
(H^+ Form)	**120°C (250°F)**
pH Limits	**None**
Impurities: Na + K ppm	**40 max**
Fe ppm	**50 max**
Heavy Metals ppm	**40 max**

RADIOACTIVE DECONTAMINATION

The capacity for decontamination is evaluated by the decontamination factor (FD), defined as the ratio of radioactivity of the influent over the radioactivity of the effluent.
This capacity depends on the nature of the radioactive isotope being removed and, the cross-linking of the strong acid cation resin in use. The table below shows that the coefficient of selectivity varies with the level of cross linking of the resin matrix.

%DVB	4	8	12	16
Li	0.9	0.85	0.81	0.74
H	1.0	1.0	1.0	1.0
Co	2.65	2.8	2.9	3.05
Cs	2.0	2.7	3.2	3.45

Clearly the affinity for these metals increases with cross-linking. It follows therefore that an ion exchanger containing 16% DVB will have a higher useful capacity, and hence a longer cycle than a conventional gel or macroporous resin, particularly when it is necessary to load cesium. It follows also that the mixed bed resin **Purolite NRW-354** which contains **Purolite NRW-160** as the cation component will have similar properties.

Comparative tests have been made in primary circuits containing lithium and boric acid to evaluate the performance of mixed beds containing strong acid cation resins of conventional gel type, and the highly crosslinked macroporous type. Decontamination factors are given below.

	gel-type mixed bed		macroporous mixed bed	
Volume Treated v/v	FD Cs 137	FD Co 58	FD Cs 137	FD Co 58
11,000	3			
33,000	1	61	32	127

Influent mean Co 58 1 10^{-3} Curie/m^3
Cs 137 1.3 10^{-1} Curie/m^3

Drums / Bags

2nd Shipment: 2006

		1st shipment 2004		2nd Shipment: 2006
Drum number	n° de fût	1	2	1
Total Activity in Bq (#)	Activité en Bq	1.170E+09	1.060E+08	6.670E+09
Total Activity in mCi	Activité en mCi	31.62	2.86	180.27
Net Weight in g	Masse en g	101300	29300	53300

(#) Those activities have been calculated with a Microshield model of drum / bag, according to their measured dose rates and contents (dose rates as of August '04 for 1st shipment and as of March '05 for 2nd shipment). Due to decay, those activities are necessarily LOWER TODAY : we can not proceed to multiple new measurements, those activities level are therefore slightly overestimated

(*) Initial data taken from "SH-2004-028 ACTIVITY CALCULATIONS" sheet, provided and calculated by SURRY (Power plant where contamination originated from)

(**) Final Date used in DECAY (3A) sheet : 2/8/2006

	CALC. FINAL AMOUNT (*) (**)	Correponding %age	1				2				1			
			Total Activity		Mass Activity		Total Activity		Mass Activity		Total Activity		Mass Activity	
			Bq	mCi	Bq / g	mCi / g	Bq	mCi	Bq / g	mCi / g	Bq	mCi	Bq / g	mCi / g
H-3	7.50E+01	0.0075%	8.62E+04	2.38E-03	8.70E-01	2.35E-08	7.99E+03	2.16E-04	2.73E-01	7.37E-09	5.03E+05	1.36E-02	9.43E+00	2.55E-07
C-14	9.40E+03	0.9448%	1.11E+07	2.99E-01	1.09E+02	2.95E-06	1.00E+06	2.71E-02	3.42E+01	9.24E-07	6.30E+07	1.70E+00	1.18E+03	3.20E-05
Cr-51	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mn-54	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fe-55	1.12E+05	11.2404%	1.32E+08	3.55E+00	1.30E+03	3.51E-05	1.19E+07	3.22E-01	4.07E+02	1.10E-05	7.50E+08	2.03E+01	1.41E+04	3.80E-04
Fe-59	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Co-57	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Co-58	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Co-60	4.08E+05	41.0054%	4.80E+08	1.30E+01	4.74E+03	1.28E-04	4.35E+07	1.17E+00	1.48E+03	4.01E-05	2.74E+09	7.39E+01	5.13E+04	1.39E-03
Ni-59	4.57E+03	0.4594%	5.38E+06	1.45E-01	5.31E+01	1.43E-06	4.87E+05	1.32E-02	1.66E+01	4.49E-07	3.06E+07	8.28E-01	5.75E+02	1.55E-05
Ni-63	4.56E+05	45.8328%	5.36E+08	1.45E+01	5.29E+03	1.43E-04	4.86E+07	1.31E+00	1.66E+03	4.48E-05	3.06E+09	8.26E+01	5.74E+04	1.55E-03
Zn-65	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sr-89	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sr-90	1.59E+01	0.0016%	1.87E+04	5.04E-04	1.84E-01	4.98E-09	1.69E+03	4.57E-05	5.77E-02	1.56E-09	1.06E+05	2.87E-03	1.99E+00	5.39E-08
Zr-95	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nb-95	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tc-99	7.08E+01	0.0071%	8.33E+04	2.25E-03	8.22E-01	2.22E-08	7.54E+03	2.04E-04	2.58E-01	6.96E-09	4.75E+05	1.28E-02	8.91E+00	2.41E-07
Ru-103	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ag-110m	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sn-113	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sb-124	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sb-125	2.68E+03	0.2699%	3.16E+06	8.53E-02	3.12E+01	8.42E-07	2.86E+05	7.73E-03	9.76E+00	2.64E-07	1.80E+07	4.87E-01	3.38E+02	9.13E-06
I-129	3.49E+01	0.0035%	4.11E+04	1.11E-03	4.05E-01	1.10E-08	3.72E+03	1.01E-04	1.27E-01	3.43E-09	2.34E+05	6.33E-03	4.39E+00	1.19E-07
I-131	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cs-134	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cs-136	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cs-137	1.35E+03	0.1356%	1.59E+06	4.29E-02	1.57E+01	4.23E-07	1.44E+05	3.89E-03	4.91E+00	1.33E-07	9.05E+06	2.45E-01	1.70E+02	4.59E-06
Ba-140	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
La-140	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ce-141	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ce-144	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Pu-238	3.75E+00	0.0004%	4.41E+03	1.19E-04	4.36E-02	1.18E-09	4.00E+02	1.08E-05	1.36E-02	3.69E-10	2.52E+04	6.80E-04	4.72E-01	1.28E-08
Pu-239	2.17E+00	0.0002%	2.55E+03	6.90E-05	2.52E-02	6.81E-10	2.31E+02	6.25E-06	7.89E-03	2.13E-10	1.46E+04	3.93E-04	2.73E-01	7.38E-09
Pu-240	4.33E-03	0.0000%	5.09E+00	1.38E-07	5.03E-05	1.36E-12	4.61E-01	1.25E-08	1.57E-05	4.26E-13	2.90E+01	7.85E-07	5.45E-04	1.47E-11
Pu-241	8.93E+02	0.0898%	1.05E+06	2.84E-02	1.04E+01	2.80E-07	9.52E+04	2.57E-03	3.25E+00	8.78E-08	5.99E+06	1.62E-01	1.12E+02	3.04E-06
Am-241	5.22E+00	0.0005%	6.14E+03	1.66E-04	6.07E-02	1.64E-09	5.57E+02	1.50E-05	1.90E-02	5.14E-10	3.50E+04	9.47E-04	6.57E-01	1.78E-08
Cm-242	8.04E-06	0.0000%	9.46E-03	2.56E-10	9.33E-08	2.52E-15	8.57E-04	2.32E-11	2.92E-08	7.90E-16	5.39E-02	1.46E-09	1.01E-06	2.73E-14
Cm-243	9.06E+00	0.0009%	1.07E+04	2.88E-04	1.05E-01	2.84E-09	9.65E+02	2.61E-05	3.29E-02	8.90E-10	6.07E+04	1.64E-03	1.14E+00	3.08E-08
Cm-244	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	9.95E+05	100%	1.17E+09	3.16E+01	1.15E+04	3.12E-04	1.06E+08	2.86E+00	3.62E+03	9.78E-05	6.67E+09	1.80E+02	1.25E+05	3.38E-03

+ 1 00568

2nd Shipment: 2006

2	3	4	Bag 1
4.270E+09	2.750E+09	2.930E+09	2.370E+09
115.41	74.32	79.19	64.05
47300	53300	60300	1500

2				3				4				Bag 1			
Total Activity		Mass Activity		Total Activity		Mass Activity		Total Activity		Mass Activity		Total Activity		Mass Activity	
Bq	mCi	Bq / g	mCi / g	Bq	mCi	Bq / g	mCi / g	Bq	mCi	Bq / g	mCi / g	Bq	mCi	Bq / g	mCi / g
3.22E+05	8.70E-03	6.80E+00	1.84E-07	2.07E+05	5.60E-03	3.89E+00	1.05E-07	2.21E+05	5.97E-03	3.66E+00	9.90E-08	1.79E+05	4.83E-03	1.19E+02	3.22E-06
4.03E+07	1.09E+00	8.53E+02	2.31E-05	2.60E+07	7.02E-01	4.87E+02	1.32E-05	2.77E+07	7.48E-01	4.59E+02	1.24E-05	2.24E+07	6.05E-01	1.49E+04	4.03E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4.80E+08	1.30E+01	1.01E+04	2.74E-04	3.09E+08	8.35E+00	5.80E+03	1.57E-04	3.29E+08	8.90E+00	5.46E+03	1.48E-04	2.66E+08	7.20E+00	1.78E+05	4.80E-03
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1.75E+09	4.73E+01	3.70E+04	1.00E-03	1.13E+09	3.05E+01	2.12E+04	5.72E-04	1.20E+09	3.25E+01	1.99E+04	5.39E-04	9.72E+08	2.63E+01	6.48E+05	1.75E-02
1.96E+07	5.30E-01	4.15E+02	1.12E-05	1.26E+07	3.41E-01	2.37E+02	6.41E-06	1.35E+07	3.64E-01	2.23E+02	6.03E-06	1.09E+07	2.94E-01	7.26E+03	1.96E-04
1.96E+09	5.29E+01	4.14E+04	1.12E-03	1.26E+09	3.41E+01	2.36E+04	6.39E-04	1.34E+09	3.63E+01	2.23E+04	6.02E-04	1.09E+09	2.94E+01	7.24E+05	1.96E-02
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6.81E+04	1.84E-03	1.44E+00	3.89E-08	4.38E+04	1.18E-03	8.22E-01	2.22E-08	4.67E+04	1.26E-03	7.75E-01	2.09E-08	3.78E+04	1.02E-03	2.52E+01	6.81E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3.04E+05	8.21E-03	6.43E+00	1.74E-07	1.96E+05	5.29E-03	3.67E+00	9.93E-08	2.09E+05	5.64E-03	3.46E+00	9.35E-08	1.69E+05	4.56E-03	1.12E+02	3.04E-06
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1.15E+07	3.11E-01	2.44E+02	6.58E-06	7.42E+06	2.01E-01	1.39E+02	3.76E-06	7.91E+06	2.14E-01	1.31E+02	3.54E-06	6.40E+06	1.73E-01	4.26E+03	1.15E-04
1.50E+05	4.05E-03	3.17E+00	8.56E-08	9.65E+04	2.61E-03	1.81E+00	4.89E-08	1.03E+05	2.78E-03	1.70E+00	4.61E-08	8.32E+04	2.25E-03	5.54E+01	1.50E-06
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5.79E+06	1.57E-01	1.22E+02	3.31E-06	3.73E+06	1.01E-01	7.00E+01	1.89E-06	3.97E+06	1.07E-01	6.59E+01	1.78E-06	3.21E+06	8.69E-02	2.14E+03	5.79E-05
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1.61E+04	4.35E-04	3.40E-01	9.20E-09	1.04E+04	2.80E-04	1.95E-01	5.26E-09	1.11E+04	2.99E-04	1.83E-01	4.95E-09	8.94E+03	2.42E-04	5.96E+00	1.61E-07
9.31E+03	2.52E-04	1.97E-01	5.32E-09	6.00E+03	1.62E-04	1.13E-01	3.04E-09	6.39E+03	1.73E-04	1.06E-01	2.86E-09	5.17E+03	1.40E-04	3.45E+00	9.32E-08
1.86E+01	5.02E-07	3.93E-04	1.06E-11	1.20E+01	3.23E-07	2.25E-04	6.07E-12	1.28E+01	3.45E-07	2.11E-04	5.72E-12	1.03E+01	2.79E-07	6.88E-03	1.86E-10
3.84E+06	1.04E-01	8.11E+01	2.19E-06	2.47E+06	6.68E-02	4.63E+01	1.25E-06	2.63E+06	7.11E-02	4.36E+01	1.18E-06	2.13E+06	5.75E-02	1.42E+03	3.84E-05
2.24E+04	6.06E-04	4.74E-01	1.28E-08	1.44E+04	3.90E-04	2.71E-01	7.32E-09	1.54E+04	4.16E-04	2.55E-01	6.90E-09	1.24E+04	3.36E-04	8.30E+00	2.24E-07
3.45E-02	9.33E-10	7.30E-07	1.97E-14	2.22E-02	6.01E-10	4.17E-07	1.13E-14	2.37E-02	6.40E-10	3.93E-07	1.06E-14	1.92E-02	5.18E-10	1.28E-05	3.45E-13
3.89E+04	1.05E-03	8.22E-01	2.22E-08	2.50E+04	6.77E-04	4.70E-01	1.27E-08	2.67E+04	7.21E-04	4.42E-01	1.20E-08	2.16E+04	5.83E-04	1.44E+01	3.89E-07
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4.27E+09	1.15E+02	9.03E+04	2.44E-03	2.75E+09	7.43E+01	5.16E+04	1.39E-03	2.93E+09	7.92E+01	4.86E+04	1.31E-03	2.37E+09	6.41E+01	1.58E+06	4.27E-02

2nd Shipment: 2006

Bag 2	Bag 3	Bag 4	Bag 5
3.330E+09	9.510E+09	1.900E+09	2.900E+10
90.00	257.03	51.35	783.78
2000	1500	2000	5000

Bag 2				Bag 3				Bag 4				Bag 5			
Total Activity		Mass Activity		Total Activity		Mass Activity		Total Activity		Mass Activity		Total Activity		Mass Activity	
Bq	mCi	Bq / g	mCi / g	Bq	mCi	Bq / g	mCi / g	Bq	mCi	Bq / g	mCi / g	Bq	mCi	Bq / g	mCi / g
2.51E+05	6.78E-03	1.25E+02	3.39E-06	7.17E+05	1.94E-02	4.78E+02	1.29E-05	1.43E+05	3.87E-03	7.16E+01	1.93E-06	2.19E+06	5.91E-02	4.37E+02	1.18E-05
3.15E+07	8.50E-01	1.57E+04	4.25E-04	8.99E+07	2.43E+00	5.99E+04	1.62E-03	1.80E+07	4.85E-01	8.98E+03	2.43E-04	2.74E+08	7.41E+00	5.48E+04	1.48E-03
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3.74E+08	1.01E+01	1.87E+05	5.06E-03	1.07E+09	2.89E+01	7.13E+05	1.93E-02	2.14E+08	5.77E+00	1.07E+05	2.89E-03	3.26E+09	8.81E+01	6.52E+05	1.76E-02
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1.37E+09	3.69E+01	6.83E+05	1.85E-02	3.90E+09	1.05E+02	2.60E+06	7.03E-02	7.79E+08	2.11E+01	3.90E+05	1.05E-02	1.19E+10	3.21E+02	2.38E+06	6.43E-02
1.53E+07	4.13E-01	7.65E+03	2.07E-04	4.37E+07	1.18E+00	2.91E+04	7.87E-04	8.73E+06	2.36E-01	4.36E+03	1.18E-04	1.33E+08	3.60E+00	2.66E+04	7.20E-04
1.53E+09	4.12E+01	7.63E+05	2.06E-02	4.36E+09	1.18E+02	2.91E+06	7.85E-02	8.71E+08	2.35E+01	4.35E+05	1.18E-02	1.33E+10	3.59E+02	2.66E+06	7.18E-02
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5.31E+04	1.43E-03	2.65E+01	7.17E-07	1.52E+05	4.10E-03	1.01E+02	2.73E-06	3.03E+04	8.19E-04	1.51E+01	4.09E-07	4.62E+05	1.25E-02	9.25E+01	2.50E-06
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2.37E+05	6.41E-03	1.19E+02	3.20E-06	6.77E+05	1.83E-02	4.51E+02	1.22E-05	1.35E+05	3.66E-03	6.76E+01	1.83E-06	2.06E+06	5.58E-02	4.13E+02	1.12E-05
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8.99E+06	2.43E-01	4.49E+03	1.21E-04	2.57E+07	6.94E-01	1.71E+04	4.62E-04	5.13E+06	1.39E-01	2.56E+03	6.93E-05	7.83E+07	2.12E+00	1.57E+04	4.23E-04
1.17E+05	3.16E-03	5.84E+01	1.58E-06	3.34E+05	9.02E-03	2.22E+02	6.01E-06	6.67E+04	1.80E-03	3.33E+01	9.01E-07	1.02E+06	2.75E-02	2.04E+02	5.50E-06
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4.52E+06	1.22E-01	2.26E+03	6.10E-05	1.29E+07	3.49E-01	8.60E+03	2.32E-04	2.58E+06	6.97E-02	1.29E+03	3.48E-05	3.93E+07	1.06E+00	7.87E+03	2.13E-04
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1.26E+04	3.39E-04	6.28E+00	1.70E-07	3.59E+04	9.69E-04	2.39E+01	6.46E-07	7.17E+03	1.94E-04	3.58E+00	9.68E-08	1.09E+05	2.96E-03	2.19E+01	5.91E-07
7.26E+03	1.96E-04	3.63E+00	9.82E-08	2.07E+04	5.61E-04	1.38E+01	3.74E-07	4.14E+03	1.12E-04	2.07E+00	5.60E-08	6.33E+04	1.71E-03	1.27E+01	3.42E-07
1.45E+01	3.92E-07	7.25E-03	1.96E-10	4.14E+01	1.12E-06	2.76E-02	7.46E-10	8.27E+00	2.23E-07	4.13E-03	1.12E-10	1.26E+02	3.41E-06	2.52E-02	6.82E-10
2.99E+06	8.08E-02	1.50E+03	4.04E-05	8.54E+06	2.31E-01	5.69E+03	1.54E-04	1.71E+06	4.61E-02	8.53E+02	2.31E-05	2.60E+07	7.04E-01	5.21E+03	1.41E-04
1.75E+04	4.73E-04	8.74E+00	2.36E-07	4.99E+04	1.35E-03	3.33E+01	9.00E-07	9.98E+03	2.70E-04	4.99E+00	1.35E-07	1.52E+05	4.12E-03	3.05E+01	8.23E-07
2.69E-02	7.27E-10	1.35E-05	3.64E-13	7.69E-02	2.08E-09	5.12E-05	1.38E-12	1.54E-02	4.15E-10	7.68E-06	2.08E-13	2.34E-01	6.33E-09	4.69E-05	1.27E-12
3.03E+04	8.19E-04	1.52E+01	4.10E-07	8.66E+04	2.34E-03	5.77E+01	1.56E-06	1.73E+04	4.67E-04	8.65E+00	2.34E-07	2.64E+05	7.14E-03	5.28E+01	1.43E-06
0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3.33E+09	9.00E+01	1.67E+06	4.50E-02	9.51E+09	2.57E+02	6.34E+06	1.71E-01	1.90E+09	5.14E+01	9.50E+05	2.57E-02	2.90E+10	7.84E+02	5.80E+06	1.57E-01

Resins

Volume of resins	110 L	
Density	720 - 800 kg / m3	
Weight of resins	79,2 kg (min) - 88 kg (max)	
Weight of empty resin drum	80 kg	
Total weight (resin + drum)	170 kg (*)	
Activity measured in Bq (**)	8.37238E+10	
Activity measured in Ci (**)	2.26281E+00	
Actual total activity in Bq (**)	2.04177E+11	(#)
Actual total activity in Ci (**)	5.51831E+00	(#)

(*) Includes possible residual water in the container pipes
(**) Activity determined with a microshield model, based on dose rate measured as of July 2nd 2004 (when resins were tranfered in their drum). Due to decay, those activities are necessarily LOWER TODAY : we can not proceeded to multiple new measurements, those activities level are therefore slightly overestimated

(#) See explainations on the right of the isotopic mic table

See Specs below =>

Typical Chemical and Physical Characteristics

Polymer Structure	Macroporous polystyrene crosslinked with divinylbenzene
Appearance	Spherical beads
Functional Groups	Polystyrene Sulphonate
Ionic Form - as shipped	Hydrogen - H^+ [99.9%]
Total Capacity (H^+ Form)	2.1 eq/l min
Moisture Retention (H^+ Form)	43-48%
Bead Size Range (microns)	+1200 <2%, -420 <2%
Screen Size Range (U.S. Standard Screen)	16-40 mesh, wet
Reversible Swelling ($Na^+ \rightarrow H^+$)	4%
Specific Gravity (H^+ Form)	1.21
Shipping Weight	760-800 kg/m^3 (47.5-50 lb/ft^3)
Temperature Limit (Na^+ Form)	140°C (285°F)
(H^+ Form)	120°C (250°F)
pH Limits	None
Impurities: Na + K ppm	40 max
Fe ppm	50 max
Heavy Metals ppm	40 max

Isotopic mix of resins determined **according to SURRY's calculations of the isotopic mixture** (see CALC. FINAL AMOUNT in "DECAY (3A)" sheet).

	CALC. FINAL AMOUNT (*) (**)	Correponding %age	Resins			
			Total Activity		Mass Activity	
			Bq	mCi	Bq / g	mCi / g
H-3	7.50E+01	0.0075%	1.54E+07	4.16E-01	1.92E+02	5.20E-06
C-14	9.40E+03	0.9448%	1.93E+09	5.21E+01	2.41E+04	6.52E-04
Cr-51	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Mn-54	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fe-55	1.12E+05	11.2404%	2.30E+10	6.20E+02	2.87E+05	7.75E-03
Fe-59	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Co-57	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Co-58	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Co-60	4.08E+05	41.0054%	8.37E+10	2.26E+03	1.05E+06	2.83E-02
Ni-59	4.57E+03	0.4594%	9.38E+08	2.54E+01	1.17E+04	3.17E-04
Ni-63	4.56E+05	45.8328%	9.36E+10	2.53E+03	1.17E+06	3.16E-02
Zn-65	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sr-89	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sr-90	1.59E+01	0.0016%	3.25E+06	8.80E-02	4.07E+01	1.10E-06
Zr-95	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nb-95	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tc-99	7.08E+01	0.0071%	1.45E+07	3.93E-01	1.82E+02	4.91E-06
Ru-103	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ag-110m	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sn-113	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sb-124	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sb-125	2.68E+03	0.2699%	5.51E+08	1.49E+01	6.89E+03	1.86E-04
I-129	3.49E+01	0.0035%	7.16E+06	1.94E-01	8.95E+01	2.42E-06
I-131	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cs-134	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cs-136	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cs-137	1.35E+03	0.1356%	2.77E+08	7.48E+00	3.46E+03	9.36E-05
Ba-140	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
La-140	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ce-141	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ce-144	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Np-237	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Pu-238	3.75E+00	0.0004%	7.70E+05	2.08E-02	9.63E+00	2.60E-07
Pu-239	2.17E+00	0.0002%	4.45E+05	1.20E-02	5.57E+00	1.50E-07
Pu-240	4.33E-03	0.0000%	8.89E+02	2.40E-05	1.11E-02	3.00E-10
Pu-241	8.93E+02	0.0898%	1.83E+08	4.96E+00	2.29E+03	6.20E-05
Am-241	5.22E+00	0.0005%	1.07E+06	2.90E-02	1.34E+01	3.62E-07
Cm-242	8.04E-06	0.0000%	1.65E+00	4.46E-08	2.06E-05	5.57E-13
Cm-243	9.06E+00	0.0009%	1.86E+06	5.02E-02	2.32E+01	6.28E-07
Cm-244	0.00E+00	0.0000%	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	9.95E+05	100%	2.04E+11	5.52E+03	2.55E+06	6.90E-02

=>

Explainations :

- According to SURRY's calculations, Co60 accounts for 41 %
- SOMANU has defined that there are : **8.37238E+10** Bq of activity in the resins

- Our own spectrometry shows that this is almost 100 % Co60
- Therefore, the actual level of activity is : **2.04177E+11** Bq

SOMANU has performed a spectrum analysis "for information" (not official) : it shows almost 100 % Co60. Nevertheless, our equipment can only detect gamma emiters.

We leave to your own decision the choice between those two options, in accordance with your client's point of view (SURRY)