APPLICATION FOR CONSENT TO CONDUCT MARINE SCIENTIFIC RESEARCH IN AREAS UNDER NATIONAL JURISDICTION OF UNITED KINGDOM

1. GENERAL INFORMATION

1.1 CRUISE NAME AND/OR NUMBER

DISPRO

1.2 SPONSORING INSTITUTION

Name: Institute for Radioprotection and Nuclear Safety/LERFA
Laboratoire d'Etudes Radioecologiques de la Facade Atlantique

Address: BP 10, 50130 CHERBOURG-OCTEVILLE

Phone: 33 02 33 01 41 00

Fax: 33 02 33 01 41 30

Director: Dr. Pierre GERMAIN

1.3 SCIENTIST IN CHARGE OF THE PROJECT

Name: Pascal Bailly du Bois

Address: IRSN - LERFA, BP 10, F50130 CHERBOURG-OCTEVILLE

Phone: 33 02 33 01 41 05

Fax: 33 02 33 01 41 30

Email: pascal.bailly-ju-bois@irsn.fr

1.4 SCIENTIST FROM UNITED KINGDOM INVOLVED IN THE PLANNING OF THE PROJECT

None

1.5 SUBMITTING OFFICER

Name: Pascal Bailly du Bois

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BP 10, 50130 CHERBOURG-OCTEVILLE

Phone: 33 02 33 01 41 05

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2. DESCRIPTION OF THE PROJECT

2.1 NATURE AND OBJECTIVES OF THE PROJECT

Calibration of hydrodynamic model close from a sca pipeline by measurement of a dissolved tracer (tritium).

Controlled tritium releases from the outfall of the nuclear reprocessing plant at La Hague will be used as tracers.

Validation concerns the dilution parameters from hours to several days after releases.

Results will give more precision of models used for evaluation of consequences of controlled or accidental releases of pollutants in macrotidal seas.

2.2 RELEVANT PREVIOUS OR FUTURE RESEARCH CRUISES

- TRANSAT 24/02/2002 - 28/02/2002
- TRANSAT 27/08/2002 - 31/08/2002
- DISPRO 02/11/2002 - 06/11/2002
- DISPRO 21/11/2002 - 25/11/2002

2.3 PREVIOUSLY PUBLISHED RESEARCH DATA RELATING TO THE PROJECT

Bailly du Bois, P., Salomon, J.C., Gandon, R., Guegueniat, P., 1995. A quantitative estimate of English Channel water fluxes into the North Sea from 1987 to 1992 based on radiotracer distribution. Journal of Marine Systems Vol. 6, No. 5-6 pp. 457-481.

Bailly du Bois P., 1996. Mapping of water masses in the North Sea using radioactive tracers. Endeavour 20, 1 1996, pp. 2-7.

Bailly du Bois, P., Rozet, M., Thoral, K., Saloman, J.C., 1997. Improving knowledge of water-mass circulation in the English Channel using radioactive tracers. Radioprotection, Numero special “Radionuclides in the Oceans”, RADOC 96-97, Proceedings Part 1 “Inventories, behaviour and processes” Cherbourg-Octeville (France), 7-11 October, 1996. Edited by P. Germain, J.C. Guary, P. Guegueniat and H. Metivier Radioprotection - colloques, April 1997, Vol. 32, C2, pp. 63-69.

Bailly du Bois, P., Rancillac, F., 1998. Dispersion en milieu marin. Rapport au Comite Scientifique de J’IPSN, 16 juin 1998 Document “C”, 36 p.

Bailly du Bois, P., 1998. Radioactivite et dynamique des masses d’eaux en Manche - Mer du Nord. Rapport Scientifique et Technique de J’IPSN 1997 Mission communication IPSN, pp. 132-137.

Bailly du Bois, P., Maro D., Germain, P., 1999. Le tritium dans l’environnement marin de la manche. Journee tritium SFRP, UICF, 19 octobre 1999 Res 2p., 14 p.

Bailly du Bois, P., Guegueniat P., 1999. Quantitative assessment of dissolved radiotracers in the English Channel: sources, average impact of la Hague reprocessing plant and conservative behaviour (1983, 1986, 1988 and 1994). Continental Shelf Research, FluxManche II Dedicated Volume Vol. 19 pp 1977-2002.

Bailly du Bois, P. and Dumas, F., 2002. Hydrodynamic modelling of amid and long-term dispersion in seawater on the English Channel and south-North Sea scale, accurate qualitative and quantitative validation by radionuclides tracers. Journal of Marine Systems, Num. Spec. Liege 6-10 May 2002, submitted.

Bailly du Bois, P., Germain, P., Rozot, M. and Solier, L., 2002. Water masses circulation and residence time in the Celtic Sea and English Channel approaches, characterisation based on radionuclides labelling from industrial releases. Proceedings from the International Conference on Radioactivity in Environment, Ed. by Peer Borretzen, Torun Jolle, Per Strand Monaco 1-5 September 2002, pp. 395-399.

Breton, M., Salomon, J.C., 1995. A 2D long-term advection-dispersion model for the channel and southern North Sea. Part A: validation through comparison with artificial radionuclides, Journal of Marine Systems Vol. 6 No. 5-6 pp. 495-514.

Fraizier, A., Guegueniat, P;, Salomon, J.C., 1992. Aspects temporcis de l'impact de rejects radioactifs, effectues en mer, sur les eaux d'une station littorale de la Manche. Oceanologica Acta 15, 1, 75-85.

Gandon, R., Bailly du Bois, P., Baron, Y., 1998. Caractere conservatif de j'antimoine 125 dans les eaux marines soumiscs a l'influence des rejects de l'usine de retraitement des combustibles irradies de La Hage. Radioprotection Vol. 33 (4) pp. 457-482.

Garreau, P., Bailly du Bois, P., 1997. Transportation of radionuclides in Celtic Sea, a possible mechanism. Radioprotection, Numero special "Radionuclides in the Oceans", RADOC 96-97, Proceedings Part 1 "Inventories, behaviour and processes", Cherbourg-Octeville (France), 7-11 October 1996. Edited by P. Germain, J.C. Guary, P. Guegueniat and H. Metivier Radioprotection - colloques, April 1997, Vol. 32, C2, pp. 381-385.

Groupe Radioecologie Nord Cotentin, 1999. Modelos de transfert des radionucleides dans l'environnement. IPSN - Clamart Rapport du sous-groupe No. 3, 500p.

Gueguenist, P., Salomon, J.C., Wartel, M., Cabioch, L., Fraizier, A., 1993. Transfer Pathways and Transit Time of Dissolved Matter in the Eastern English Channel Indicated by Space-Time Radiotracers Measurement and Hydrodynamic Modelling. Estuarine, Coastal and Shelf Science 36, pp. 477-494.

Guegueniat, P., Bailly du Bois, P., Gandom, R., Salomon, J.C., Baron, Y., Leon, R., 1994. Spatial and Temporal distribution (1987-91) of 125Sb used to trace pathways and transmit times of waters entering the North Sea from the English Channel. Estuarine, Coastal and Shelf Science 39, pp. 59-74.

Guegueniat, P., Bailly du Bois, P., Salomon, J.C., Mason, M., Cabioch, L., 1995. Fluxmanche radiotracers measurements: A Contribution to the dynamics of the English Channel and North Sea. Journal of Marine Systems 6, pp. 483-494.

Herrmann, J., Kershaw, P.J. Bailly du Bois, P., Guegueniat P., 1995. The distribution of artificial radionuclides in the English Channel, southern North Seal, Skagerrak and Kattegat, 1990-1993. Journal of Marine Systems Vol. 6 No. 5-66 pp. 427-456.

Salomon, J.C. Guegueniat, P., Orbi, A., Baron, Y., 1988. A lagrangian model for long term tidally induced transport and mixing. Verification by artificial radionuclide concentrations. In: Radionucleides: A tool for oceanography. Cherbourg 1-5 juin 1987, Ed. Guary, J.C., Guegueniat, P., Pentreach, R.J., Elsevier Applied Science Publishers pp. 384-394.

Salomon, J.C., Breton, M., 1990. Courants residuels de maree dans la Manche. Oceanologica Acta Vol. - No., -.

Salomon, J.C., Guegueniat, P., Breton, M., 1991. Mathematical model of 125Sb transport and dispersion in the Channel. In: Radionuclides in the study of marine processes. Norwich, UK, 10-13 september 1991, Ed. Kershaw, J.P., Woodhead, D.S. Elsevier Applied Science pp. 74-83.

Salomon, J.C., Breton, M., 1993. An atlas of long-term currents in the Channel. Oceanologica Acta Vol. 16, 5-6, pp. 439-448.

Salomon, J.C., Breton, M., Guegueniat, P., 1993. Computed residual flow through the Dover Strait. Oceanologica Acta 16, 5-6 pp. 449-455.

Salomon, J.C., Breton, M., Guegueniat, P., 1995. A 2D long term advection-dispersion model for the Channel and southern North Sea. Part B: Transit and transfer function from Cap de La Hague. Journal of Marine Systems Vol. 6 No. 5-6 pp. 515-528.

Salomon, J.C., Broton, M., Fraizier, A., Bailly du Bois, P., Guegueniat, P., 1997. A semi-analytic mathematical model for dispersion of dissolved substances in the Channel Isles region. Radioprotection, Numero special “Radionuclides in the Oceans”, RADOC 96-97, Proceedings Part 1 “Inventories, behaviour and processes” Cherbourg-Octeville (France), 7-11 October, 1996. Edited by: P. Germain, J.C. Guary, P. Guogueniat and H. Metivier Radioprotection - colloques, April 1997, Vol. 32, C2, pp. 375-380.

3. DESCRIPTION OF THE PROJECT

3.1 PARTICULARS OF VESSEL

Name:	RV Cotes de la Manche
Nationality:	French
Owner:	CNRS/INSU
Operator:	DT. INSU (Mr. A Montier), BP 330, 83507 La Seyne Sur Mer
Overall length:	24.90m
Maximum draught:	3.60m
Net tonnage:	none
Gross tonnage:	144.36 tons b.
Propulsion:	Diesel 1300CV at 1650 rpm
Cruising speed:	12 knots
Maximum speed:	12 knots
Call sign:	FQBE
Method and capability of communication (including telex, frequencies):	BLU-1605-4000 KHz; VHF RT 2048-156-174 MHz
Name of master:	
Number of crew:	7
Number of scientists of board:	8

3.2 AIRCRAFT OR OTHER CRAFT TO BE USED IN THE PROJECT

None

3.3 PARTICULARS OF METHODS AND SCIENTIFIC INSTRUMENTS

Types of Samples and data	**Methods to be used**	**Instruments to be used**
Seawater sampling for tritium measurement	In-board water pump for surface seawater continuous sampling	
Air sampling for tritium measurement	In board air pump	
Current measurements	In board instruments	ADCP profiler
Salinity, temperature	In board instruments	Seacat profiler SBE19

3.4 INDICATE WHETHER HARMFUL SUBSTANCES WILL BE USED

None

3.5 INDICATE WHETHER DRILLING WILL BE CARRIED OUT

None

3.6 INDICATE WHETHER EXPLOSIVES WILL BE USED

None

4. INSTALLATIONS AND EQUIPMENT

4.1 DETAILS OF INSTALLATIONS AND EQUIPMENT (DATES OF LAYING, SERVICING, RECOVERY, EXACT LOCATIONS AND DEPTH)

No equipment left at sea

5. GEOGRAPHICAL AREAS

5.1 INDICATE GEOGRAPHICAL AREAS IN WHICH THE PROJECT IS TO BE CONDUCTED (WITH REFERENCE IN LATITUDE AND LONGITUDE)

Approaches of La Hague Cape, north Cotentin peninsula

Longitude range: 49deg 30'N - 60deg N
Latitude range: 2deg 30'W - 1deg 30'W

5.2 ATTACH CHART(S) AT AN APPROPRIATE SCALE SHOWING THE GEOGRAPHICAL AREAS OF THE INTENDED WORK AND, AS FAR AS PRACTICABLE, THE POSITIONS OF INDENTED STATIONS, THE TRACKS OF SURVEY LINES AND THE LOCATIONS OF INSTALLATIONS AND EQUIPMENT

See attached chart

6. DATES

6.1 EXPECTED DATES OF FIRST ENTRY INTO AND FINAL DEPARTURE FROM THE RESEARCH AREA OF THE RESEARCH VESSEL

DISPRO - first period:

Entry Date: 11/06/2003

Departure Date: 16/06/2003

DISPRO - second period:

Entry Date: 08/08/2003

Departure Date: 12/08/2003

6.2 INDICATE IF MULTIPLE ENTRY IS EXPECTED

Yes

7. PORTS CALLS

7.1 DATES AND NAMES OF INTENDED PORTS OF CALL IN UNITED KINGDOM

Alderney: Braye Harbour
Guernsey: St. Peter Port

7.2 ANY SPECIAL LOGISTICAL REQUIREMENTS AT PORTS OF CALL

None

7.3 NAME/ADDRESS/TELEPHONE OF SHIPPING AGENT (IF AVAILABLE)

8. PARTICIPATION

8.1 EXTENT OF WHICH UNITED KINGDOM WILL BE ENABLED TO PARTICIPATE OR TO BE REPRESENTED IN THE RESEARCH PROJECT

Participant of an observer from United Kingdom is possible

8.2 PROPOSED DATES AND PORTS FOR EMBARKATION/DISEMBARKATION

DISPRO - First period

Start Date	11/06/2003	Cherbourg
End Date	16/062003	Cherbourg

DISPRO - Second period

Start Date	08/08/2003	Cherbourg
End Date	12/08/2003	Cherbourg

9. ACCESS TO DATA, SAMPLES AND RESEARCH RESULTS

9.1 EXPECTED DATES OF SUBMISSION TO UNITED KINGDOM OR PRELIMINARY REPORTS, WHICH SHOULD INCLUDE THE EXPECTED DATES OF SUBMISSION OF THE FINAL RESULTS

December 2003-07-31

9.2 PROPOSED MEANS FOR ACCESS BY UNITED KINGDOM TO DATA AND SAMPLES

Data files on request

9.3 PROPOSED MEANS OF MAKING RESEARCH INTERNATIONALLY AVAILABLE

Publications in international scientific journals