NOTIFICATION OF PROPOSED RESEARCH CRUISE

PART A : GENERAL ORGANISATION

1. Name of research ship **RV BELGICA** Cruise N° **2013/4**

2. Dates of cruise From **11 February** to **15 February 2013**

3. Operating Authority

Belgian Navy under contract for Belgian Ministry of Science Policy
Management Unit of the North Sea Mathematical Model "M.U.M.M.",
3de & 23ste Linieregimentsplein, 8400 Oostende
Tel: 32(0)59 70 01 31, Facsimile: 32(0)59 70 49 35
Email : bmmost@mumm.ac.be

4. Owner **Belgian state represented by Minister for Science Policy**

5. Particulars of ship

Name	**Belgica**	
Nationality	Belgian	
Overall length	51 meters	
Maximum draught	4,5 meters	
Nett tonnage	232 NRT	
Propulsion	Diesel	
Call Sign	ORGQ	
Telephone	INMARSAT	00870 76 218 73 27
Facsimile	INMARSAT	00870 32 052 18 12
Email	belgica@mumm.ac.be	

6. Crew

Name of master	**Lt Cdr (BeN) Manuel Pedro DORY**
N° of Crew	**15**

7. Scientific Personnel

Name and address of scientist in charge :

Prof. Dr. M. De Batist
Universiteit Gent
Renard Centre of Marine Geology (RCMG)
Krijgslaan 281, S8
B-9000 Gent
Tel:+32-9-264 45 87, Fax:+32-9-264 49 67
e-mail: Marc.DeBatist@UGent.be

N° of scientists **10**

(A nominal roll of all personnel other than nationals of the applicant (flag) state is required)

8. Geographical area in which ship will operate (with reference in latitude and longitude).

French and UK continental shelves
Within the polygon defined by the corners with coordinates (see chart):

- **P1: 1.083442°E, 51.038942°N**
- **P2: 1.314227°E, 51.108555°N**
- **P3: 1.778353°E, 50.971213°N**
- **P4: 1.624038°E, 50.882954°N**

9. Brief description of purpose of cruise

Historical sources indicate the occurrence in the past of relatively large earthquakes (magnitude ~ 6.0) in the southern North Sea (AD 1382) and in the English Channel (AD 1580). These earthquakes also caused damage onshore. Earthquakes of this magnitude are caused by abrupt tectonic movements on faults with a length of at least a few kilometers. However, so far nothing is known about possibly active faults in the English Channel.

The main objective of the project 'SHARE' (Seismic Hazard Harmonization in Europe) is to deliver measurable progress in all steps leading to a harmonized assessment of seismic hazard - in the definition of engineering requirements, in the collection and analysis of input data, in procedures for hazard assessment, and in engineering applications.
This project is carried out in the EC 7th Framework Programme SHARE:226967 (Active faults in Western Europe): 2009-2012 and the NIRAS/ONDRAF convention CCHO:2007-4177/00/00 (Seismotectonic Zonation): 2007-2010.

10. Port of Call. Dates. Reasons.

Zeebrugge	**11/02/2013**	**Departure homeport. Start of research cruise RV Belgica 2013/4**
Zeebrugge	**15/02/2013**	**Arrival homeport. End of research RV Belgica cruise 2013/4**

11. Any special logistic requirements at ports of call (other than water, fuel provisions, etc.)

N.A.

NOTIFICATION OF PROPOSED RESEARCH CRUISE

PART B: DETAIL

1. Name of research ship **RV BELGICA** Cruise N° **2013/4**

2. Date of cruise From **11 February** To **15 February 2013**

3. Purpose of research and general methods. (If the research work is being taken on behalf of a research institution of a third state, it is the responsibility of that state to obtain prior permission; it is essential that written confirmation that this has been done is obtained and quoted in this application.

   Onshore, investigations are being conducted on the North-Artois Shear Zone, an old fault zone which may have become active again, and which continues through the English Channel. The purpose of this project is to look for evidence of recent activity of these faults, such as displacement of young sediments or tectonic seafloor relief. This will be achieved by collection of multibeam bathymetry data, dense grids of high-resolution and deep-penetration reflection seismic profiles, and by collecting side-scan sonar records and doing video-observations of the sea floor in key locations.

4. Attach chart(s) showing (on an appropriate scale) the geographical area of the intended work, positions of intended stations, tracks of survey lines, positions of moored / seabed equipment.

   See Annex

5. Types of samples required, e.g. Geological / Water / Plankton / Fish / Radioactivity / Isotope ….

   geophysical measurements

   and methods by which samples will be obtained (including dredging/coring/drilling).

   multibeam bathymetry, side-scan sonar recording, seismic profiling, video-observations

6. Details of moored equipment : **N.A.**

Dates Laying	Recovery	Description	Latitude	Longitude

7. Explosives : **N.A.**

   (a) Type and Trade Name
   (b) chemical content
   (c) Dept of trade class and stowage
   (d) Size
   (e) Depth of detonation
   (f) Frequency of detonation
   (g) Dates of detonation

8. Details and reference of

(a) Any relevant previous/future cruises

RV BELGICA research cruise 2010/09
RV BELGICA research cruise 2012/03
RV BELGICA research cruise 2012/25

(b) Any previous published research data relating to the proposed cruise (attach separate sheet if necessary)

Camelbeeck, T., Vanneste, K., Alexandre, P., Verbeeck, K., Petermans, T., Rosset, P., Everaerts, M., Warnant, R. and Van Camp, M., 2007. Relevance of active faulting and seismicity studies to assess long term earthquake activity in Northwest Europe. In: S. Stein and S. Mazzotti (eds.) Continental Intraplate Earthquakes: Science, Hazard, and Policy Issues. Geological Society of America, Special Paper 425, 193-224.

Camelbeeck, T., Vanneste, K. and Van Camp, M., 2008. The seismic activity in stable continental Europe. In: Camelbeeck, T., Degée, H., Degrande, G. and Sabbe, A. (eds.) Seismic risk - Earthquakes in North-Western Europe. Editions de l'Université de Liège, pp.25-32

9. Names and addresses of scientist of the coastal state in whose waters the proposed cruise takes place with whom previous contact has been made.

FRANCE :
Dr. Michel Sébrier, directeur de recherche CNRS, UMR 7072, Institut des Sciences de la Terre de Paris (ISTeP), Université Pierre et Marie Curie, Case courrier 129, 4 place Jussieu, F-75252 Paris Cedex 05.
Dr. Hervé Jomard, Institut de Radioprotection et de Sûreté Nucléaire (IRSN), DEI/SARG/BERSSIN, BP 17, F-92262 Fontenay aux Roses Cedex
Dr. Alain Trentesaux, Université de Lille 1, SN5, UMR 8577, F-59655 Villeneuve d'Ascq Cedex

UNITED KINGDOM
Dr. Jenny Collier, Department of Earth Science & Engineering, Imperial College, Prince Consort Road, London, SW7 2AZ, UK

10. State :

(a) Whether visits to the ship in port by scientists of the coastal state concerned will be acceptable.

YES

(b) Whether it will be acceptable to carry on board an observer from the coastal state for any part of the cruise and dates and ports of embarkation / disembarkation.

Yes, cfr. part A § 10

(c) When research data from intended cruise is likely to be made available to the coastal state and if so by what means. (If the final report is likely to be delayed beyond 12 months, interim progress reports are required.

Scientific publications when available by request to the project chief

PART C : **SCIENTIFIC EQUIPMENT**

COASTAL STATE : **FRANCE**

INDICATE "YES" OR "NO"

LIST SCIENTIFIC WORK BY FUNCTION EG. MAGNETOMETRY : GRAVITY DIVING : SEISMICS: BATHYMETRY SEABED SAMPLING TRAWLING ECHO SOUNDING : WATER SAMPLING U/W T.V. : MOORED INSTRUMENTS: TOWED INSTRUMENTS:	WATER COLUMN INCLUDING SEDIMENT SAMPLING OF THE SEABED	FISHERIES RESEARCH WITHIN FISHING LIMITS	RESEARCH CONCERNING THE NATURAL RESOURCES OF THE CONTINENTAL SHELF OR ITS PHYSICAL CHARACTERISTICS	DISTANCE FROM COAST		
				WITHIN 12 NMS	BETWEEN 12-200 NMS	CONTINENTAL SHELF WORK ONLY BEYOND 200 NM BUT WITHIN THE CONTINENTAL MARGIN
Sidescan sonar			**YES**	**YES**		
Seismic profiling			**YES**	**YES**		
EM 3002 multibeam bathymetry			**YES**	**YES**		
Video-observations			**YES**	**YES**		

PART C : **SCIENTIFIC EQUIPMENT**

COASTAL STATE : **UNITED KINGDOM**

INDICATE "YES" OR "NO"

LIST SCIENTIFIC WORK BY FUNCTION EG. MAGNETOMETRY : GRAVITY DIVING : SEISMICS: BATHYMETRY SEABED SAMPLING TRAWLING ECHO SOUNDING : WATER SAMPLING U/W T.V. : MOORED INSTRUMENTS: TOWED INSTRUMENTS:	WATER COLUMN INCLUDING SEDIMENT SAMPLING OF THE SEABED	FISHERIES RESEARCH WITHIN FISHING LIMITS	RESEARCH CONCERNING THE NATURAL RESOURCES OF THE CONTINENTAL SHELF OR ITS PHYSICAL CHARACTERISTICS	DISTANCE FROM COAST		
				WITHIN 12 NMS	BETWEEN 12-200 NMS	CONTINENTAL SHELF WORK ONLY BEYOND 200 NM BUT WITHIN THE CONTINENTAL MARGIN
Sidescan sonar			**YES**	**YES**		
Seismic profiling			**YES**	**YES**		
EM 3002 multibeam bathymetry			**YES**	**YES**		
Video-observations			**YES**	**YES**		

ANNEX

RV Belgica research cruise 2013/4: chart