

# NATURAL ENVIRONMENTAL RESEARCH COUNCIL

## Application for Consent to conduct Marine Scientific Research ICELAND

Date: 6<sup>th</sup> November 2012

### 1. General Information

1.1 Cruise name and/or number:
Extended Ellett Line JC086

1.2 Sponsoring Institution(s):	
Name:	Scottish Association for Marine Science
Address:	SMI, Oban, Argyll, PA35 1HW
Name of Director:	Professor Laurence Mee

1.3 Scientist in charge of the Project:	
Name:	Colin Griffiths
Country:	Scotland
Affiliation:	SAMS
Address:	SMI, Oban, Argyll, PA35 1HW
Telephone:	(01631) 559000/559326
Fax:	(01631) 559001
Email:	colin.griffiths@sams.ac.uk
Website (for CV and photo):	www.sams.ac.uk

1.4 Entity(ies)/Participant(s) from coastal State involved in the planning of the project:	
Name:	Dr Héðinn Valdimarsson
Affiliation:	Marine Research Institute
Address:	Skulagata 4, 121 Reykjavik.
Telephone:	+354 575 2000
Fax:	+354 575 2001
Email:	hedinnv@gmail.com
Website (for CV and photo):	<a href="http://www.hafro.is">http://www.hafro.is</a>

### 2. Description of Project

2.1 Nature and objectives of the project:
<p>On behalf of UK NERC we will undertake routine sampling of the physical properties (temperature, salinity, current velocity) of the waters of the northern North Atlantic as part of a sustained monitoring programme (the Extended Ellett Line) designed to determine long term changes in the state of the ocean. These observations will be made from the sea surface to the seabed. They have been used in the past by scientists from a number of different countries to determine and explain changes in the North Atlantic Thermohaline Circulation. In addition we will undertake biogeochemical analyses of these waters as part of particular research programmes designed to understand the processes that determine levels of biological productivity in the region. We will also provide training for student scientists.</p> <p>This section will run from the Scottish coast to Rockall, 57° 40' N, 13° 54' W, then through the Icelandic Basin to 60° N, 20° W and then run North up to the Iceland coast, 63.292° N, 20° W (depth 125 m).</p> <p>More information about the Ellett Line can be found at: <a href="http://www.smi.ac.uk/oceans-2025/wp-10-so4">www.smi.ac.uk/oceans-2025/wp-10-so4</a> and at: <a href="http://www.noc.soton.ac.uk/obe/PROJECTS/EEL/index.php">www.noc.soton.ac.uk/obe/PROJECTS/EEL/index.php</a></p>

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2.2 If designated as part of a larger scale project, then provide the name of the project and the Organisation responsible for coordinating the project:

This cruise forms part of NERC's generic National Capability programme.

2.3 Relevant previous or future research projects:

Ellett Line cruises were previously funded under NERC's Oceans2025 Collaborative Programme.

2.4 Previous publications relating to the project:

Cruise reports of earlier cruises are available from the links to the BODC website found at [www.noc.soton.ac.uk/obe/PROJECTS/EEL/index.php](http://www.noc.soton.ac.uk/obe/PROJECTS/EEL/index.php)

RRS Charles Darwin CD176 Oct 2005  
RRS Discovery D312 Sep/Oct 2006  
RRS Discovery D321b Aug/Sep 2007  
RRS Discovery D340 June 2009  
RRS Discovery D351 May 2010  
RRS Discovery D379 August 2012

A recent peer review publication is:

Sherwin T.J., Read, J.F., Holliday, N.P. and Johnson, C. (2011). The impact of changes in North Atlantic Gyre distribution on water mass characteristics in the Rockall Trough, *ICES Journal of Marine Science*, doi:10.1093/icesjms/fsr185

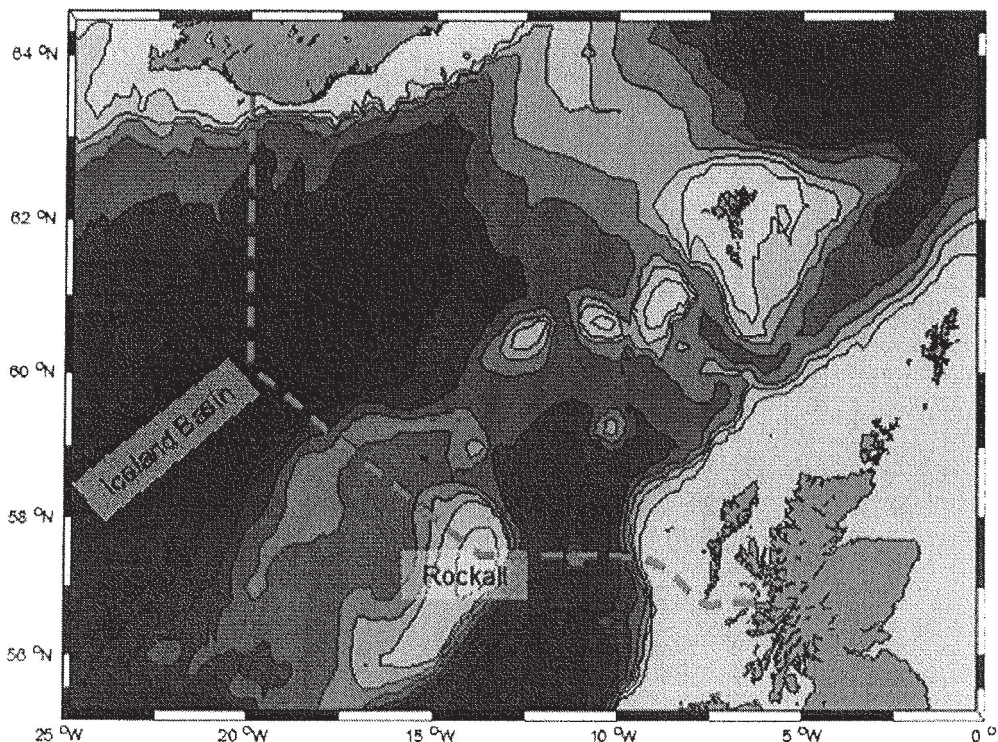
### 3. Geographical Areas

3.1 Indicate geographical areas in which the project is to be conducted (with reference in Latitude and longitude, including coordinates of cruise/track/way points)

NE Atlantic - 64° N, 21° W to 56° N, 5° W

3.2 Attach chart(s) at an appropriate scale (1 page, high-resolution) showing the geographical Areas of the intended work and, as far as practicable, the location and depth of sampling Stations, the tracks of survey lines, and the locations of installations and equipment.

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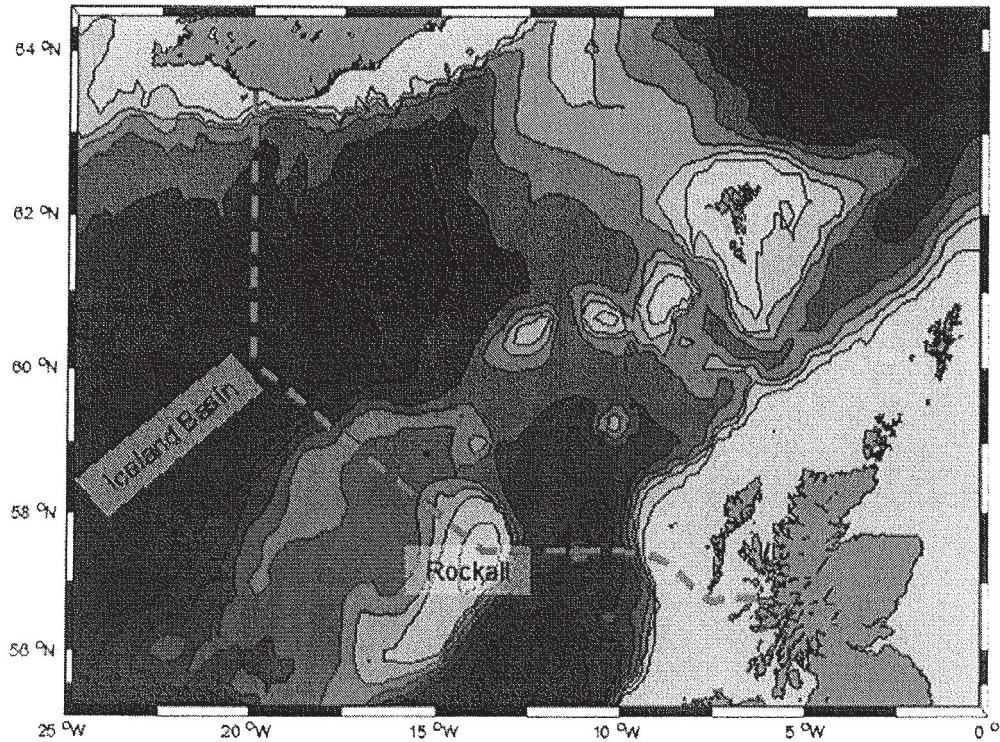
Area of the northern North Atlantic showing the line of the CTD section.

### 4. Methods and means to be used

4.1 Particulars of vessel:	
Name:	RRS James Cook
Type/Class:	Lloyds +100 A1 Ice Class C1 + LMC, UMS, DP(AM), "Research Vessel"
Nationality (Flag State):	British
Identification Number (IMO/Lloyds No.):	235010700
Owner:	Natural Environmental Research Council
Operator:	National Marine Facilities Sea Systems
Overall length (meters):	86.20 Metres
Maximum draught:	6.7 Metres
Displacement/Gross Tonnage:	Net Tonnage: 1620 Gross Tonnage: 5401
Propulsion:	Motor
Cruising & maximum speed:	11 Knots & Max Speed 15 Knots
Call sign:	MLRM6
INMARSAT number and method and capability of communication (including emergency frequencies):	764538468 – Voice 764538470 – Fax 423501712=jame x - Telex
Name of Master:	TBA
Number of Crew:	22
Number of Scientists on board:	32

4.2 Particulars of Aircraft:	
Name:	
Make/Model:	
Nationality (flag State):	
Website for diagram & Specifications:	

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Owner:	
Operator:	
Overall Length (meters):	
Propulsion:	
Cruising & Maximum speed:	
Registration No.:	
Call Sign:	
Method and capability of communication (including emergency frequencies):	
Name of Pilot:	
Number of crew:	
Number of scientists on board:	
Details of sensor packages:	
Other relevant information:	

4.3 Particulars of Autonomous Underwater Vehicle (AUV):	
Name:	
Manufacturer and make/model:	
Nationality (Flag State):	
Website for diagram & Specifications:	
Owner:	
Operator:	
Overall length (meters):	
Displacement/Gross tonnage:	
Cruising & Maximum speed:	
Range/Endurance:	
Method and capability of communication (including emergency frequencies):	
Details of sensor packages:	
Other relevant information:	

4.4 other craft in the project, including its use:

4.5 Particulars of methods and scientific instruments:		
Types of samples and Measurements:	Methods to be used:	Instruments to be used:
Water Properties including temperature, salinity, velocity, oxygen & fluorescence	CTD profiling package	SeaBird CTD and water rosette system, RDI LADCP system
Underway sampling	Acoustic, Atmospheric & sea surface water sampling	ADCPs, echo sounders, thermosalinograph

4.6 Indicate nature and quantity of substances to be released into the marine environment:
Small quantities of laboratory agents will be used within the laboratories aboard the ship. All waste products will be disposed of on return to the UK.

4.7 Indicate whether drilling will be carried out. If yes, please specify:
No

4.8 Indicate whether explosives will be used. If yes, please specify type and trade name, Chemical content, depth of trade class and stowage, size, depth of detonation, frequency of Detonation, and position in latitude and longitude:
No

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### 5. Installations and Equipment

Details of installations and equipment (including dates of laying, servicing, method and Anticipated timeframe for recover, as far as possible exact locations and depth, and Measurements):

None

### 6. Dates

6.1 Expected dates of first entry into and final departure from the research area by the research vessel and/or other platforms:

First Entry: 8<sup>th</sup> May 2013

Final Entry: 25<sup>th</sup> May 2013

6.2 Indicate if multiple entries are expected:

No

### 7. Port Calls

7.1 Dates and Names of intended ports of call:

None

7.2 Any special logistical requirements at ports of call:

N/A

7.3 Name/Address/Telephone of shipping agent (if available):

N/A

### 8. Participation of the representative of the coastal State

8.1 Modalities of the participation of the representative of the coastal State in the research Project:

8.2 Proposed dates and ports for embarkation/disembarkation:

Embark: Glasgow, UK 29<sup>th</sup> April - 6<sup>th</sup> May 2013

Disembark: Glasgow, UK 26<sup>th</sup> - 31<sup>st</sup> May 2013

### 9. Access to Data, Samples and Research Results

9.1 Expected dates of submission to coastal State of preliminary report, which should include the expected dates of submission of the data and research results:

Six months after completion of Cruise

9.2 Anticipated dates of submission to the coastal State of the final report:

One year after completion of Cruise

9.3 Proposed means for access by coastal State to data (including format) and samples:

A complete data disc (or discs) with ascii and binary data will be sent with the preliminary report. Data will be archived at the British Oceanographic Data Centre where they are publically available

9.4 Proposed means to provide coastal State with assessment of data, samples and Research results:

Original data and cruise reports will be sent by post and/or electronic transfer, as directed by the Coastal State

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9.5 Proposed means to provide assistance in assessment or interpretation of data, samples  
And research results:

Via direct contact with the Principal Scientist in the first instance.

9.6 Proposed means of making results internationally available:

Through archiving of data at BODC; the cruise report; peer reviewed publications; student  
theses etc.

10. Other permits Submitted

10.1 Indicate other types of coastal state permits anticipated for this research (received or  
Pending):

None

11. List of Supporting Documentation

11.1 List of attachments, such as additional forms required by the coastal State, etc.:

None

Signature:

Contact information of the focal point:

Name:

Country:

Affiliation:

Address:

Telephone:

Fax:

Email: