NATURAL ENVIRONMENT RESEARCH COUNCIL

APPLICATION FOR CONSENT TO CONDUCT MARINE SCIENTIFIC RESEARCH Faroe Islands

Date: 29th September 2009

SHIP NAME	CRUISE NUMBER	DATES OF CRUISE	Country applied for	PORT CALLS	DATES
RRS Discovery	D351	10 - 28 May 2010	Iceland	Reykjavik	10 - 28 May 2010
			Ireland		10 - 28 May 2010
			Faroe Islands		10 - 28 May 2010

List Scientific Work by Function e.g.: Magnetometry Gravity, Diving, Seismic, Bathymetry, Seabed Sampling, Trawling, Echo Sounding, Water Sampling U/W T.V.: Moored and Towed instrument	Water Column Incl. Sediment Sampling on the Seabed	Fisheries Research within Fishing Limits	Research Concerning the Natural Resources of the Continental Shelf or its Physical Characteristics	Distance from Coast Between Within 12 NM ** UP TO COAST **	12 - 200 NM
CTD & water sampling, underway water sampling, water current profiling and echo sounding	Yes, water column	No	No	YesNo	Yes
Moored current meters	Yes	No	No		Yes

1. *General information*

1.1 Cruise name and/or number: RRS DISCOVERY D351

1.2 Sponsoring institution:

Name: Natural Environment Research Council
Address: Polaris House, North Star Avenue, Swindon SN2 1EU, UK

1.3 Scientist in charge of the project:

Name: Ms Jane Read
Address: National Oceanography Centre, Southampton
Empress Dock Southampton, SO14 3ZH, UK
Telephone: +44 23 80 59 6433
Telefax:

1.4 Scientist(s) from Faroe Islands **informed of the planning of the project**

Name(s):
Address:

Submitting officer:
Name: R. Plumley, NERC NMF SS, National Oceanography Centre, European Way, Empress Dock, Southampton, SO14 3ZH
Telephone: 02380 596800
Telex: 47121 Telefax: 02380 635130

2. *Description of project* *(Attach additional pages as necessary)*

To occupy a hydrographic section from Scotland via Rockall to Iceland to maintain a time series started in 1975 "the Extended Ellett Line".

2.1 Nature of objectives of the project:

To observe changes in the warm, saline inflow to the Nordic Seas and the cold dense outflow returning to the North Atlantic.

2.2 Relevant previous or future research cruises:

Discovery cruises 340 (2009), 321 (2007), 312 (2006), Charles Darwin (2005) Poseidon 314 (2004).

2.3 Previously published research data relating to the project:

Data are banked with the British Oceanographic Data Centre (www.bodc.ac.uk). See attached list for publications and references

3. *Methods and means to be used*

3.1 Particulars of vessel

Name: **RRS Discovery**
Nationality: **British**
Owner: **NERC**
Operator: **NMF SS**
Overall Length: **90.25 metres**
Maximum draught: **5.446 metres**
Net tonnage: 902 **Gross tonnage: 3008**
Propulsion: **Diesel Electric**
Cruising Speed: **11 knots** **Maximum speed: N/A**
Call sign: **GLNE**
Method of capability of communication (including telex, frequencies):
Inmarsat Voice: 323388210 Fax: 23388212 Telex: 323388214
Name of Master: **TBA**
Number of Crew: **22**
Number of Scientists on board: 28
MMSI: 233882000

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
Water column properties	Lowered profiling CTD	SBE CTDO, fluorometer, transmissometer, water bottle rosette, lowered ADCP
Underway sampling	Wind speed & direction, air pressure, humidity, irradiance. Sea surface temperature, salinity, fluorescence, turbidity. Water currents. Water depth. Towed sampling fish.	Meteorological instruments, irradiometers. Thermosalinograph, fluorometer, transmissometer. Echo sounder For clean samples
Mooring maintenance at 60° 15'N, 8° 55' W	Water current velocities	Bottom mounted ADCP

3.4 Indicate whether harmful substances will be used:

Limited quantities of acids, caustic and toxic chemicals for the routine determination of nutrient and dissolved oxygen concentrations and phytoplankton sampling. Limited quantities of radioisotopes for primary productivity and bacteria measurements. Limited quantities of carrier gases, helium and 1% isobutene in argon. All used within the working areas aboard the ship. All waste products to be disposed of on return to the UK.

3.5 Indicate whether drilling will be carried out: No

3.6 Indicate whether explosives will be used: No

4. *Installations and equipment*

4.1 Details of installations and equipment (dates of laying, servicing, recovery; exact locations and depth):

One bottom mounted ADCP to be serviced on the Wyville Thomson Ridge at 60° 15'N, 8° 55'W (deployed by Sherwin et al (2007) on Discovery cruise 321b, and renewed on Discovery cruise 340).

5. *Geographical areas*

5.1 Indicate geographical areas in Faroe Islands **which the project is to be conducted (with reference in latitude and longitude):**

55°N - 66°N, 25°W - 5°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 intended 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 Faroe Islands **and final departure from research area of the research vessel:**

Expected first entry: 10 May 2010
Expected final departure 28 May 2010

6.2 Indicate if multiple entry is 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: No

7.2 Name/Address/Telephone of shipping agent (if available): N/A

8. *Participation*

8.1 Extent to which each coastal state will be enabled to participate or to be represented in the research project:

One berth for an observer from each coastal state is offered in accordance with UNCLOS Art 249 (1a).

8.2 Proposed dates and ports for embarkation/disembarkation:

Embark: Reykjavik, Iceland: 10 May 2010
Disembark: Clyde, UK: 28 May 2010

9. *Access to data, samples and research results*

9.1 Expected dates of submission of preliminary reports which should include the expected dates of submission of the final results:

Six months after completion of Cruise

9.2 Proposed means for access to data and samples:

Data will be available on line from BODC

9.3 Proposed means to provide an assessment of data, samples and research results or provide assistance in their assessment or interpretation:

Reports, meetings and on-line

9.4 Proposed means of making research results internationally available:

International peer reviewed journals and reports.

.....(On behalf of the Principal Scientist)

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Relevant references

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Read, J.F., 2005. RV Poseidon cruise 314 11 Jul - 23 Jul 2004 The 'Extended Ellett Line' Scotland - Rockall - Iceland time series. Southampton Oceanography Centre, Cruise Report No 58, 68pp

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