

EISCAT-UK AND RISR-C EQUIPMENT SHARING

To

**THE MEMORANDUM OF UNDERSTANDING BETWEEN CANADA AND THE UNITED KINGDOM
OF GREAT BRITAIN AND NORTHERN IRELAND
ON COOPERATION IN POLAR RESEARCH**

Pursuant to the Memorandum of Understanding (MOU) between the United Kingdom of Great Britain and Northern Ireland and Canada on Cooperation in Polar Research dated December 2008 (see Appendix 1), the following Project Annex, which is the second to be established under this MoU, is hereby established. Unless specified herein to the contrary, the provisions of the MOU will be applicable to, and will take precedence over, this Project Annex (PA).

The PA Authorities designated by each Participant will be identified as entering into the PA.

1. SCOPE, CONTRIBUTIONS, AND CLASSIFICATION

- a. Canadian and UK scientists have a common interest in polar upper atmosphere and space science research using incoherent scatter radars (ISRs). Canada has funded the University of Calgary to build a new incoherent scatter radar, called the Resolute Incoherent Scatter Radar – Canada (RISR-C), which is now constructed and expected to begin operations by summer 2014. The UK is a member of the European Incoherent SCATter (EISCAT) Association, which operates 3 ISRs in the Scandinavian sector. The UK membership is administered on behalf of the UK Natural Environment Research Council by the National Centre for Atmospheric Research (NCAS) and the British Antarctic Survey (BAS).
- b. In the spirit of the CAN-UK MoU concerning cooperation in polar research (see Appendix 1), this project aims to provide a reciprocal arrangement whereby it will be possible for Canadian researchers to bid for the UK experiment time on EISCAT, in return for UK researchers having similar access to time on RISR-C.
- c. The ongoing UK subscription to EISCAT currently provides access to about 150 hours per year of UK Special Programme time. The University of Calgary has funds to operate RISR-C for 3 years from Summer 2014, with 5-6 experiment days per month at full power and the possibility of a low power mode for the remainder of the time.
- d. Bids for UK EISCAT and Canadian RISR-C experiment time will be invited twice per year and assessed and ranked against all other bids by respective national panels. The assessment criteria will be scientific excellence and the technical viability of the experiment.

- e. Experiment time of successful bids will be limited to a maximum allocation equal to the UK Special Programme time allocation (i.e., currently about 150 hours per year), this being less than the available RISR-C time (see paragraph 1c above).
- f. It is intended that costs to each PA authority will be approximately equal over the project period, but this is not a requirement. Cost will be based on the unit of experiment hour. Only experiment time shall be exchanged; no exchange of money is intended or shall be demanded. If costs in one year differ by more than a factor of 2, then the maximum experiment time allocation offered in the subsequent year by each Authority may be adjusted accordingly.
- g. EISCAT experiments must be conducted in accordance with the governing rules of the EISCAT Association (www.eiscat.se/groups/Documentation/admin/groups/Documentation/admin/Association), its operating practices, and the rules of the road concerning data usage.
- h. Each bid must include a 'sponsor' from the host radar country who is, or has been approved by, the relevant Project Manager (see Section 2). The sponsor will provide technical support and be invited as a scientific participant in the preparation of the bid and, if successful, the subsequent execution of the experiment. The Project Manager will arrange support to run the experiment at the site. No financial or other support will be provided for the bid team to attend the site.
It is expected that the contribution of the sponsor will be appropriately recognized in any research outputs, and involve the offer of co-authorship in presentations and publications. Further, all research outputs from an experiment will be expected to honor the respective reasonable expectations regarding acknowledgment (e.g., funding agencies, technicians, etc.).
- i. Perceived benefits include:
 - New scientific opportunities through wider ISR access.
 - Greater collaboration between UK and Canadian scientists.
 - Better opportunities for coordinated EISCAT and RISR-C experiments.
 - More competition for ISR time, raising scientific standards.
 - Extension of opportunities provided under the EISCAT Peer Review Programme.
 - Greater interest and involvement in EISCAT and RISR-C, including the possibility of widening and extending future support for each (e.g., through EISCAT membership).

2. PROJECT MANAGEMENT

- a. The agreement is between the British Antarctic Survey (which jointly manages the UK subscription to EISCAT and the UK user support with the National Centre for Atmospheric Science) and the University of Calgary (which owns and operates RISR-C).
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- b. The project managers are Dr Eric Donovan (U. Calgary, edonovan@ucalgary.ca) and Dr Andrew Kavanagh (British Antarctic Survey, andkav@bas.ac.uk).
- c. Progress shall be measured by the take-up of the available ISR experiment time (see Section 1b-e).
- d. After each bi-annual round of experiment bids (see Section 1d), each PA authority will exchange a report summarizing the bids received and the associated experiment time awarded. After every second round, the total experiment time awarded will be reviewed and the maximum experiment time allocation offered in the subsequent year may be revised (see Section 1f).
- e. At the end of the project, a final report shall be jointly produced summarizing the bids received, the experiment time awarded, and the associated outcomes including publications, presentations, awards, commercial benefits, outreach activities, etc.

3. FINANCIAL

See Section 1f.

4. COMMENCEMENT, DURATION, AND TERMINATION

This PA will come into effect on the date of the last signature, and will remain in effect until 31 December 2015. It shall then be extendable by mutual consent.

The PA Authorities may amend or terminate this PA in writing by mutual consent.

Either PA Authority may withdraw from this PA by giving ninety days written notice to the other Participant.

FOR CANADA



**GOVERNORS OF
UNIVERSITY OF CALGARY**

PA AUTHORITY ED MCCAULEY
(SIGNATURE AND TITLE) VP - RESEARCH

(DATE) MAY 16 2013

**Read and acknowledged by
DR. ERIC DONOVAN**



(DATE) July 2. 2013

**ABORIGINAL AFFAIRS AND NORTHERN
DEVELOPMENT**

**NATIONAL AUTHORITY
SIGNATURE AND TITLE**

(DATE) _____

**FOR THE UNITED KINGDOM OF GREAT BRITAIN
AND NORTHERN IRELAND**



**DR ANDREW KAVANAGH
BRITISH ANTARCTIC SURVEY**

PA AUTHORITY UKEISCAT SUPPORT
(SIGNATURE AND TITLE) SCIENTIST

(DATE) 8 July 2013

**PROF ALAN RODGER,
DIRECTOR, BRITISH ANTARCTIC SURVEY,
UK NATURAL ENVIRONMENT RESEARCH
COUNCIL**



**RESEARCH COUNCIL AUTHORITY
(SIGNATURE AND TITLE)**

Interim Director
(DATE) 08/07/2013

APPENDIX 1



MEMORANDUM OF UNDERSTANDING BETWEEN THE GOVERNMENT OF THE UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND AND THE GOVERNMENT OF CANADA CONCERNING COOPERATION IN POLAR RESEARCH

THE GOVERNMENT OF THE UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND and ***THE GOVERNMENT OF CANADA*** (hereinafter referred to as the “Participants”):

BEING CONSCIOUS that the consequences of climate change require both Participants to increase their attention to developments at both poles;

RECOGNIZING that the International Polar Year has raised the profile of, and generated significant interest in, polar research and monitoring;

TAKING INTO ACCOUNT that increased international cooperation in the polar regions is desired;

TAKING INTO ACCOUNT that there is an opportunity to maximize the utilization of, and share access to, complementary infrastructure resources;

RECOGNIZING the increased interest by the GOVERNMENT OF THE UNITED KINGDOM and the continuing role of the GOVERNMENT OF CANADA in the Arctic Council, the interest of both Participants in the Antarctic Treaty System and the involvement of the Participants in both organizations;

RECOGNIZING that the Participants have complementary strengths, both scientifically and operationally, in the polar regions;

RECOGNIZING the existing level of scientific cooperation between the Participants and the desire of the Participants to increase scientific cooperation in all aspects of polar research, including but not limited to, the sharing of polar infrastructure, logistics and scientific exchanges;

RECOGNIZING the common strategic polar scientific priorities of the Participants;
and

INTENDING to pursue scientific and technical cooperation in polar research in accordance with the terms of this Memorandum of Understanding (MOU);

HAVE REACHED the following understanding:

1. PURPOSE

- (a) The purpose of this MOU is to establish a framework acceptable to both Participants in order to facilitate:
 - (i) the augmentation of the scientific and technical capabilities of the Participants by exchanging access to or sharing of polar facilities, resources and services at negotiated, equivalent valuations;
 - (ii) cooperative activities; and
 - (iii) the development and execution of Project Annexes (“PAs”).
- (b) For the purposes of sub-paragraph (a) "polar facilities" include bases, ice-capable ships, aircraft, logistic support, laboratory or scientific facilities and expertise located in the polar regions.

2. NATIONAL AUTHORITIES

- (a) The GOVERNMENT OF CANADA hereby designates the Department of Indian Affairs and Northern Development as its National Authority for the purposes of this MOU.
 - (b) The GOVERNMENT OF THE UNITED KINGDOM hereby designates the Department for Innovation, Universities and Skills as its National Authority for the purposes of this MOU.
 - (c) A Participant may change its designated National Authority by providing notice in writing of such a change to the other Participant.
 - (d) The role of a National Authority will be to:
 - (i) administer this MOU on behalf of its respective Participant;
 - (ii) coordinate the activities of its respective Participant in relation to the administration of this MOU;
 - (iii) fulfill the roles and tasks of a National Authority which are set out in the provisions of this MOU; and
 - (iv) use its best endeavours to ensure that the PA Authorities and any persons implementing the MOU comply with the provisions of the MOU and any relevant Project Annex.
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3. SCOPE

- (a) The scope of cooperative activities arranged under this MOU may include aspects of pure and applied research, development, observation, and monitoring as they relate to furthering the Participants' understanding of the polar regions.
 - (b) Such cooperation between the Participants will seek to enable the following objectives to be addressed:
 - (i) the conduct of cooperative activities to improve the ability to measure, process, interpret, model, and report on physical and biological processes and conditions;
 - (ii) the timely and efficient access to infrastructure and exchange of resources for cooperative polar research;
 - (iii) the promotion, development, and implementation of the exchange, subject to intellectual property requirements, of data, information and interpretive products between the Participants for the purpose of enhancing their respective scientific and technological knowledge; and
 - (iv) the provision of a means to facilitate the procurement, lease, exchange or sharing, subject to intellectual property requirements, of data, information, expertise, resources and services related to specialized equipment, instrumentation, modeling applications, software and publications, research and development, testing, calibration, maintenance, and training.
 - (c) Subject to the terms of this MOU and any applicable PA, cooperation may be carried out in, but not limited to, the following forms:
 - (i) exchanging access, or sharing of facilities, infrastructure and/or major assets;
 - (ii) development of new opportunities for joint polar science activities;
 - (iii) new opportunities for capacity-building, training, communications and public outreach;
 - (iv) conducting joint field studies;
 - (v) exchanging materials and/or equipment;
 - (vi) exchanging personnel; and
 - (vii) exchanging information.
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4. MANAGEMENT

- (a) Unless otherwise arranged, the National Authorities or their nominated representatives will meet annually at such times as they may jointly determine, to review all activities under this MOU.
- (b) Notwithstanding any other provision of this MOU, all activities under this MOU will be conducted in accordance with, and are subject to, all applicable international laws or domestic laws, and to all executive orders, guidelines and policies of the Participants.
- (c) Cooperative activities involving a joint program of work or a sustained exchange of information will require a Project Annex (PA) to this MOU to be developed in accordance with the provisions of paragraph 5, below.

5. PROJECT ANNEXES

- (a) Each Participant will designate, by notice in writing to the other Participant, one or more departments or agencies of that Participant which will develop a PA (hereinafter referred to as the "PA Authorities").
 - (b) The PA Authorities will sign a PA and any amendment to, or termination of, a PA.
 - (c) To facilitate the tracking of PAs under this MOU, each National Authority may choose to co-sign each PA and any amendment to, or termination of a PA.
 - (d) A PA will, to the extent practicable, follow the format set out in Schedule I to this MOU. As a minimum, a PA will:
 - (i) identify the PA Authorities in respect of that PA;
 - (ii) include a description of the program of work;
 - (iii) set out objectives for measuring progress;
 - (iv) set out each Participant's financial or other contributions under the PA;
 - (v) identify the project manager(s);
 - (vi) provide for the preparation of project reports at appropriate intervals;
 - (vii) provide for the preparation of a final project report; and
 - (viii) provide copies of reports referred to in (vi) and (vii) to the PA Authorities and to the National Authorities.
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- (e) A PA may also include supplementary financial arrangements and in-kind contributions.
- (f) The provisions of this MOU will apply to all PAs unless a particular PA specifically provides otherwise for the purposes of that PA.

6. FINANCE

- (a) Each Participant will bear the full costs it incurs in performing, managing, and administering its own efforts under this MOU.
- (b) Under a PA, the PA Authorities may jointly determine that it is necessary for a PA Authority to incur contractual or other commitments on behalf of the other PA Authority. In the event that a PA Authority incurs such commitments, the PA Authority will pay a jointly determined share of such commitments, make funds available in such amounts and at such times as set out in the PA or as jointly determined in writing in advance by the PA Authorities.
- (c) Such commitments may also be settled through in-kind arrangements as set out in Schedule II to this MOU. Every effort will be made to equalize in-kind contributions in a specific PA so as to avoid the need to maintain a registry of in-kind contributions for the MOU.

7. INFORMATION EXCHANGE

- (a) The information that may be exchanged under the auspices of this MOU may include information that is intended to acquaint the National Authorities and their nominated representatives with national projects and to identify common polar research and monitoring interests and such other matters as may be necessary to properly define the appropriate level of cooperation between the Participants. In addition to the exchange of reports and other documents, such exchange of information may include workshops and other cooperative sessions that focus on research outcomes and the planning of cooperative programs.
 - (b) Except as set out in (c), below, all documents and any other information to be exchanged pursuant to this MOU will be routed through the National Authorities or their nominated representatives.
 - (c) All documents and any other information to be exchanged pursuant to a PA will be routed through the PA Authorities. Requests for the release of information associated with a PA will be routed through the PA Authorities.
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- (d) Each Participant and PA authority will give all possible protection to information, data, and products of a confidential nature provided by the other Participant and PA Authority. At a minimum this protection will include the same protection which a Participant and PA Authority accords its own information, data and products.
- (e) A Participant, National Authority, or PA Authority will not distribute, disseminate, or use for purposes outside the scope of this MOU any data or products belonging to, or any information provided by, the other Participant, National Authority or PA Authority, or products derived therefrom which is of a confidential nature, without the written consent of the other Participant, National Authority or PA.
- (f) A Participant, National Authority, or PA Authority will not licence, or sublicense any data or products belonging to, or any information provided by, the other Participant, National Authority or PA Authority, or products derived therefrom, without the written consent of the other Participant, National Authority or PA.
- (g) Third party requests for licenses or permissions to use data, products or information of a National Authority or PA Authority which are protected by intellectual property rights (IPR) will be referred to the National Authority or PA Authority holding such IPR.
- (h) If a third party claims that a National Authority's or PA Authority's use of information, data, or products provided by the other National Authority or PA Authority infringes the IPR of that third party, each National Authority or PA Authority will immediately inform the other of that fact. The National Authority or PA Authority will then discuss the appropriate action to be taken to address such a claim.

8. EXCHANGE OF PERSONNEL

- (a) Participation in any exchange of personnel under this MOU will be restricted to personnel of the Participants.
 - (b) The exchange of personnel will be subject to the written mutual consent of the PA Authorities. This consent will clarify the program of work on which the exchanged personnel will be engaged including its relationship to any particular PA, the commencement and termination dates of the exchange, and any other matters germane to the exchange.
 - (c) At the end of each exchange, the exchanged personnel will prepare a final report on the work carried out during the exchange, the conditions experienced during the exchange, and any benefits derived from the exchange. This final report will be submitted to each Participant.
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- (d) Recognizing that internal limitations or requirements and individual circumstances may require other approaches, the following principles will generally apply to exchanges of personnel:
- (i) Exchanged personnel will be entitled to annual leave in accordance with the regulations of his or her parent organization. Public holidays appropriate to the country in which the exchange takes place will be observed;
 - (ii) If required, a performance report will be completed by the host Participant in accordance with the requirements of the sending Participant or PA Authority;
 - (iii) The host Participant or PA Authorities will arrange for the provision of any office facilities and technical and administrative support necessary for the purposes of the exchange;
 - (iv) The host Participant or PA Authority will arrange for the payment of travel and subsistence costs associated with the performance of any duties carried out pursuant to a request by the host Participant or PA Authority;
 - (v) All costs and expenses associated with any transfer or posting, and all financial benefits accruing to the individual being transferred will be paid by the sending Participant or PA Authority;
 - (vi) The sending Participant or PA Authority will assume all expenses associated with special services and/or duty travel authorized by, and in the sole interest of, the sending Participant or PA Authority during the period of exchange; and
 - (vii) Each Participant will facilitate the provision of all necessary passes, visas, or other documents required from that Participant in respect of a personnel exchange.

9. LOAN OF EQUIPMENT

- (a) For the purpose of implementing a PA, and subject to its financial and accounting requirements, a PA Authority may loan to the other PA Authority equipment identified in the PA.
 - (b) The providing PA Authority will make its best efforts to ensure the equipment is furnished to the receiving PA Authority in a serviceable condition suitable for its intended purpose. However, the providing PA Authority gives no assurance of fitness of the equipment for a particular purpose or use, and the providing PA Authority will not alter, improve, adapt, or repair the equipment or any part thereof.
 - (c) Equipment provided under a PA will remain the property of the providing PA Authority.
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- (d) The receiving PA Authority will:
 - (i) use the equipment loaned under a PA for the purposes set out in the PA only; and
 - (ii) maintain the equipment in as good condition as received, normal wear and tear excepted, unless the PA Authorities have jointly determined that the loaned equipment may be expended or otherwise consumed in connection with the purposes of the PA, without reimbursement to the providing PA Authority .

10. INVOLVEMENT OF OTHER ORGANISATIONS

- (a) The National Authority and/or PA Authorities, as appropriate, will encourage and facilitate the development of direct contacts and cooperation among government agencies, northern Aboriginal organizations, universities, research centers, institutions, private sector companies and other entities in their respective countries.
- (b) Each National Authority and/or PA Authority may, with the consent in writing of the other National Authority and/or PA Authority, invite other government entities or agencies of the United Kingdom of Great Britain and Northern Ireland and Canada, and other entities, including scientists, technical experts, governmental agencies, northern aboriginal organizations and institutions of third countries or international organizations, to participate in activities carried out pursuant to this MOU, subject to such provisions as the Participants may specify.

11. INTERPRETATION AND APPLICATION

- (a) Nothing in this MOU will be interpreted as creating, recognizing or denying any legally enforceable rights or obligations.
- (b) Nothing in this MOU will be construed as an obligation by either Participant to enter into a treaty, contract, subcontract, or other relationship with the other Participant.
- (c) The Participants will attempt to resolve any disputes arising out of, or in connection with, this MOU by discussions between the Participants or by any other mutually acceptable process.

12. ACCURACY OF INFORMATION

- (a) Information transmitted by one Participant to the other Participant under this MOU should be accurate to the best knowledge and belief of the transmitting Participant.
 - (b) The transmitting Participant does not warrant the suitability of the information transmitted for any particular use or application by the receiving Participant or by any third party.
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13. NOTICES

Any notice to be given or communication to be made to a Participant pursuant to the terms of this MOU will be in writing and will be effectively given or made if transmitted by e-mail, facsimile or sent by registered mail to the e-mail address, postal address or facsimile number set out in Schedule III or to any other e-mail address, postal address or facsimile number where so notified in writing by a Participant.

14. ENTRY INTO EFFECT AND TERMINATION

- (a) This MOU will enter into effect upon the signature of both Participants and continue until terminated at any time by either Participant upon the provision of six (6) months prior written notice to the other Participant.
- (b) Unless otherwise decided by both Participants, the termination of this MOU will not affect the responsibilities of the Participants or the PA Authorities with regard to activities under this MOU, or a PA, where such responsibilities have arisen prior to the termination referred to in (a). Such responsibilities will be carried out until completion as if this MOU or the relevant PA had remained in effect.

15. This MOU may be modified in writing by mutual consent of the Participants.

SIGNED in duplicate at _____ on this _____ day of _____ 2008, in the English and French languages, both versions being equally valid.

For the Government of the United Kingdom of Great Britain and Northern Ireland	For the Government of Canada

SCHEDULE I

FORMAT FOR PROJECT ANNEX

PROJECT ANNEX NO. ?

(TITLE)

To

**THE MEMORANDUM OF UNDERSTANDING BETWEEN CANADA AND THE UNITED KINGDOM
OF GREAT BRITAIN AND NORTHERN IRELAND
ON COOPERATION IN POLAR RESEARCH**

Signed _____
(Date)

Pursuant to the Memorandum of Understanding (MOU) between the United Kingdom of Great Britain and Northern Ireland and Canada on Cooperation in Polar Research dated _____, the following Project Annex is hereby established. Unless specified herein to the contrary, the provisions of the MOU will be applicable to, and will take precedence over, this Project Annex (PA).

The PA Authorities designated by each Participant will be identified as entering into the PA.

1. SCOPE, CONTRIBUTIONS, AND CLASSIFICATION

Describe the scope and contributions from PA Authorities.

If it is necessary amplify the scope and program of work in an Appendix.

2. PROJECT MANAGEMENT

Identify the Project Managers.

Set out objectives for measuring progress.

Set out interim and final reporting requirements.

3. FINANCIAL

Include any special financial arrangement for this PA.

4. COMMENCEMENT, DURATION, AND TERMINATION

This PA will come into effect on the date of the last signature, and will remain in effect for _____.

The PA Authorities may amend or terminate this PA in writing by mutual consent.

Either PA Authority may withdraw from this PA by giving ninety days written notice to the other Participant.

FOR CANADA

**FOR THE UNITED KINGDOM OF GREAT BRITAIN
AND NORTHERN IRELAND**

**PA AUTHORITY
(SIGNATURE AND TITLE)**

**PA AUTHORITY
(SIGNATURE AND TITLE)**

(DATE) _____

(DATE) _____

**NATIONAL AUTHORITY
(SIGNATURE AND TITLE)**

**NATIONAL AUTHORITY
(SIGNATURE AND TITLE)**

(DATE) _____

(DATE) _____

SCHEDULE II

DETERMINATION OF IN-KIND CONTRIBUTIONS

Participants may, from time to time, wish to settle financial or other commitments made to the other Participant through in-kind contributions. Such contributions will be exercised in a PA as a means of reimbursement for the use of facilities and equipment or for services provided in the execution of a PA. Participants will decide in advance, through the provisions of the PA, the nature of activities that require reimbursement and the in-kind contributions that will be made to settle the commitments.

PAs will set out a means of calculating the value of in-kind contributions, which the providing Participant will use to determine the value of its in-kind contribution in making available facilities, equipment and/or services. This calculation will be done prior to the start of a Project, and when completed and signed by both PA Authorities, will form part of the PA.

SCHEDULE III

NOTICES

