

# Nunavummi Qaujisaqtulirijikkut /Nunavut Research Institute

Box 1720, Iqaluit, NT XOA OHO phone: (819) 979-4108 fax: (819) 979-4681 email: slcnri@nunanet.com

## Reviewer Recommendation Form: Land &/or Water Based Research

Applicant Name	George Sofko
Project Name:	The PolarDARN radar for Rankin Inlet (Kangiqslineq)
Review Panel Name:	Environmental Assessment Screener NIRB
Region:	Kivalliq

Research Discipline:

Panel Comments:

Requested Terms or Conditions:

Recommend Approve ☐  
Recommend Reject ☐

Annual ☐ or  
Multi-year ☐

Signature

Title:

Date

4/26/2004

DISTRIBUTION

Please find enclosed a copy of an application for a *Science Research License* from **George Sofko, Department of Physics and Eng. Physics, University of Saskatchewan.**

George Sofko's research is titled "*The PolarDARN radar for Rankin Inlet (Kangiqliniq)*" and is proposed to take place from Aug 2004 to December 2004.

As per the **Scientists' Act** of Nunavut, community consultation is required before a Science Research Licence can be issued. The documentation is provided for your information and review. A **Reviewer Recommendation Form** is enclosed for your response by July 3, 2003.

Thank you for your continued assistance. Please contact our office if you have any questions or concerns regarding the above.



*per* Mary Ellen Thomas  
Manager, Research Liaison

encl.

cc: Environmental Assessment Screener NIRB  
Lands Manager KiV  
Executive Director NWB  
Director of Wildlife Management NWMB  
Mayor SAO Rankin Inlet  
Chairperson HTO Rankin Inlet  
Executive Director NPC

*Instructions:*

*This is the printable version of the Land, Freshwater & Marine-based Research application form.*

*Some questions may require you to send or fax additional information to Nunavut Research Institute:*

Nunavut Research Institute  
Nunavummi Qaujisaqtulirijikkut  
Box 1720, Iqaluit, NT XOA OHO  
Tel: (867) 979-4108  
Fax: (867) 979-4681  
E—mail: comments  
[www.nunanet.com/~research](http://www.nunanet.com/~research)

**SCIENTIFIC RESEARCH LICENCE APPLICATION**

Land, Freshwater and Marine Based Research

This application fulfils the requirements for NIRB environmental screening

**SECTION I: APPLICANT INFORMATION**

1. Applicant's full name and mailing address:

Dr. George Sofko	Fax: (306) 966-6400
Department of Physics and Eng. Physics	Phone: (306) 966-6444
116 Science Place	Email: <a href="mailto:George.Sofko@usask.ca">George.Sofko@usask.ca</a>
Saskatoon, SK S7N 5E2	

2. Field Supervisor (address, if different from above):

Hercules Olivier, P. Eng	Phone: (403) 220-6349 (radio or otherwise)
Physics SB605	
2500 University Dr. NW	
Calgary, AB T2N 1N4	

3. Other Personnel list (name and position):

Jan Wiid – Research Engineer

University of Saskatchewan (306) 966-6453

Total # of personnel: \_\_\_ Total # of person days\_\_\_:

Unmanned research station, research duration estimated at 5-10 years.

**SECTION 2: AUTHORIZATION NEEDED**

4. List the organizations you will contact for necessary authorizations associated with the project. (See Appendix A and B):

Nunavut Department of Community Government & Transportation – Rankin Inlet;

Nunavut Research Institute & Nunavut Arctic College - Iqaluit;

Hamlet Office – Rankin Inlet;

Industry Canada – Radio Spectrum Management, Saskatoon.

5. List the active permits, licences, or rights related to the project and their expiry date:

Radio Station Licence – application pending (Saskatoon)

Development Permit – application pending (Rankin Inlet, Hamlet)

**SECTION 3: PROJECT PROPOSAL DESCRIPTION**

6. Project duration:

Period of operation: 8/2005 to 8/2015. Proposed term of permit: 8/2004 to 8/2015.

Project title: PolarDARN, Polar Dual Auroral Radar Network

7. Location(s) of data collection:

- Land Status Types: Crown, Commissioners's Inuit Owned Surface Lands, Inuit Owned Sub-Surface Lands, and Other

- Please ensure that maps of the project area (1:50 000. 1:250 000) are faxed or mailed to the NRI

**Latitude Longitude NTS Map**

**N62/49/43.1, W92/06/46.6**

Location Name	Region	(north)	(west)	sheet #	Land Status
Rankin Inlet	Nipissak Lake	62/49/43.1	92/06/46.6	55K/16	Hamlet
	District Keewatin			edition 2	Rankin Inlet

\*For additional sites, attach a separate page.

### NON-TECHNICAL PROJECT PROPOSAL SUMMARY

8. On a separate page, please include a non-technical description of the project proposal, no more than 300 words, in English and Inuktitut (Inuinnaqtun, if in the West Kitikmeot). The project description should outline the project activities (research methods, camps. etc.) and their necessity, method of transportation any structures that will be erected, expected duration of activity and alternatives considered. If the proper activity fits into any long-term developments, please describe the projected outcome of the development of the area and its timeline.

(Please **fax or mail** this page to the NRI. Make sure that you include your reference number in your documentation.)

### SECTION 4: MATERIAL USE

9. List equipment including drills, pumps, aircrafts, etc.):

	Equipment type and number	Size-dimensions	Proposed use
1.	16 light construction HF antennas, 12m tall,	Transmit & Receive	8-20 MHz
2.	4 light construction HF antennas, 12m tall,	Receive only	8-20 MHz
3.	20 Light antenna bases, construction/anchoring for above,	steel rods & guy ropes	
4.	1 equipment hut (6 x 8m), either wood or metal container		
5.	Power line poles (x 6) from nearby Windmill research site		
6.	Short access road (100 meters) from existing road.		

10. Detail Fuel and hazardous materials use:

Fuels	Number of containers	Capacity of containers
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NONE

(gal and litres)

Diesel	NONE
Gasoline	NONE
Aviation fuel	NONE
Propane	NONE
Other	NONE

**Hazardous Materials**

**Number of  
Containers/ Concentration**

**Capacity of Containers  
(gal and liters)**

Describe method of fuel transfer:

NONE

11. Describe any procedures and materials in place to handle accidental spills. Please fax or mail your contingency plan and other appropriate information about the hazardous materials associated with the proposed project.

NONE

## **SECTION 5: WASTE DISPOSAL AND TREATMENT FACILITIES**

Not Applicable

12. Describe amount and methods of disposal:

Type of Waste	Projected Amount Generated	Method of Disposal	Additional Treatment Procedures
Sewage			
Grey water			
Garbage	NO WASTE GENERATED AT ALL		
Overburden *			
Hazardous waste			
Other:			

\* (organic soil, waste material, tailings)

## SECTION 6: RESTORATION AND ABANDONMENT PLANS

13. Describe the proposed procedure for site restoration upon abandonment of any area associated with project:

At the end of the project, the hut (or container) will be removed, the antennas collapsed, all anchor rods and ropes removed and the site will be cleaned. The power line could be left for further local use if necessary. The short access road could be left for local use too.

## SECTION 7: ENVIRONMENTAL IMPACT

14. Indicate and describe the components of the environment that are near the project area, as applicable. Fax or mail any relevant maps or information:

Type of species (common name, associated heard, etc.)	Important Habitat Area (calving, staging denning, migratory pathways, spawning, nesting, etc.)	Critical time periods (calving, post-calving, spawning, nesting, breeding, etc.)
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**For all the wildlife items mentioned under this point:**

The site will not be fenced, neither will the land be altered in any way as to intervene with wildlife. No holes, or cable trenches will be left uncovered and no harmful chemicals will be used whatsoever. The antenna structure is easily observable and low (12m) and it will pose little, or no threat, to birds. The site is too close to Rankin Inlet town to interfere with land animal migratory paths as per Traditional Knowledge Study base map, WMC International Ltd. 2001.

15. Indicate and describe other known uses of the area such as local development, traditional use (hunting/fishing/spiritual), outfitting, tourism, mineral development, research, etc.:

The site is on the outskirts of Municipal Rankin Inlet and not used for any of the above.

Other instruments in the area: Windmill research site (~500m away)

National Research Council (CANOPUS) Site (~800m away)

NAV Canada NDB Site (~800 m away)

16. Describe the impacts of the proposed project activity on the environmental components and uses, in area listed above:

Little to no impact – the project uses one equipment hut (6 x 8 meters) and 20 light metal constructed antennas in two arrays. It needs none or little land interference for securing and anchoring the equipment. All of the above will be completely removed at the end of the project.



17. What are some suggested mitigation measures for these impacts?

The equipment are of a compact, modular design and will be completely removed on completion of the research, so no mitigation measures are anticipated.

## SECTION 7: COMMUNITY INVOLVEMENT AND REGIONAL BENEFITS

18. List the community representatives that you have contacted about this proposed project:

Community	Name	Organization	Date Contacted	Means	Telephone# / Fax#
Rankin Inlet	Robert Chapple	Dept. Community Government & Transportation	Various, starting October 2002	Visit, Phone, email	(867) 645-8115 (867) 645-8143 fax
Rankin Inlet	Ron Roach	Hamlet	October, 2002	Visit	(867) 645-2895
	Simon Okpatauyak	Hamlet	October, 2002	Visit	(867) 645-2895
	Lisa Komaksiutiksak	Hamlet	February 2004	Phone	(867) 645 2895
Rankin Inlet	Randy Robinson	Nunavut Power	Various, starting October 2002	Visit Phone	(867) 645-5301
Rankin Inlet	Steve Abel	Sakku Investments (internet provider)	Various, starting October 2002	Visit, Phone, email	(867) 645-2035

19. Describe the level of involvement that the residents of Nunavut have had with respect to the proposed project. Elaborate on local employment opportunity, training programs, contracts, Inuit Impact Benefit Agreements (if applicable):

1. There are two university research sites in operation in proximity to the proposed radar site and we make use of a local custodian (Norman Gordon (867) 645-2430). In addition we foresee another opportunity for a local resident to do maintenance and custodian duties at the new site.
2. The power line will be extended to an area where there is none available at present, making residence or industry possible when we vacate the site.
3. During construction of the site, local contractors will be involved as will be the case when repair or alterations become necessary.

20. Describe, and **fax or mail** documentation regarding community concerns or support for the propose project:

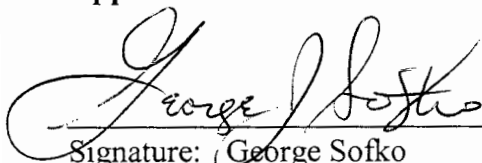
In my talks with persons mentioned under point 18, only enthusiasm was communicated and no concerns were raised.

21. Is there a Traditional Knowledge (TK) component to this research project? If yes, see Appendix C.

Yes

The research, apart from upper-atmospheric information, will also gain knowledge in Aurora behavior, permafrost, low altitude weather and snow conditions.

**Applicant:**

  
Signature: George Sofko

Title: Senior Professor, SuperDARN (Canada) Principal Investigator

FEBRUARY 16, 2004  
Date