



PROJECT DESCRIPTION FOR  
2D MARINE SEISMIC SURVEY  
OFFSHORE NORTHEAST COAST OF CANADA

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## 1. Purpose of the Project Description

The purpose of this document is to provide a Project Description to the National Energy Board as part of the environmental assessment to obtain a Geophysical Work authorization to acquire seismic exploration data within Baffin Bay, Davis Strait in 2011.

The Canadian Environmental Assessment Agency's Operational Policy Statement (OPS-EPO/5-2000) describes the purpose of the Project Description as twofold:

- 1) To determine the need for an environmental assessment. In other words, the Project Description assists a federal authority to determine whether it has a decision-making responsibility (e.g. to issue a permit) that triggers the need for an assessment of the project.

The National Energy Board (NEB) is a federal authority which must issue an authorization for the TGS-NOPEC Geophysical Company ASA Canada 2011 proposed survey, because this type of project is included on the CEAA inclusion List Regulations (SOR/94-637), but not on the Comprehensive Study List Regulations (SOR/94-638), the Board is required to ensure that a screening is conducted.

- 2) To promote efficient coordination of the environmental assessment, in other words, to identify the federal authorities that will be involved in the environmental assessment, either in a decision making role or as an expert department.

In addition to determining whether it will likely require an environmental assessment of the project under the CEAA, the federal authority receiving the Project Description (in this case, the NEB) also distributes the Description to other federal authorities which may also have a responsibility or interest, and therefore need to be notified under the regulations.

## 2. Project Description

The following project description follows the format and content recommended in the Agency's Operational Policy Statement "Preparing Project Descriptions under the Canadian Environmental Assessment Act: (OPS-EPO/5-2000). Table 1 (Sample Outline of a Detailed Project Description), where relevant for the type of project proposed.

| <b>1. General Information</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| Nature of the project         | 2D Marine Seismic Exploration Survey.<br>TGS-NOPEC Geophysical Company ASA (TGS) & Petroleum Geo-Services (PGS) proposes to conduct a 2D marine seismic exploration survey project offshore, Baffin Bay, Davis Strait within the regulatory jurisdiction of the NEB.                                                                                                                                                                                                                   |
| Project Name                  | TGS/PGS 2011 NorthEastern Canada                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Proposed location             | The proposed survey program covers a specific area within Baffin Bay, Davis Strait. The survey area is illustrated in Figure 1 – Full Survey area map.<br>All lines within the entire survey are outside the Canada 12 mile nautical limit.<br>All lines extend from beyond the Land Fast Ice area to the Canada/Greenland International Boundary, or Greenland's 200 nautical mile Exclusive Economic zone (EEZ), as applicable.<br>There are no lines within the land fast ice area. |
| Distribution List             | Chief Conservation & Safety Officer<br>Environmental Specialist, Exploration & Production<br>National Energy Board<br>444-7 <sup>th</sup> Avenue SW, Calgary, Alberta, T2P 0X8<br>Phone: (403) 292-4800<br>Fax: (403) 292-5876                                                                                                                                                                                                                                                         |
| Information on Consultations  | Consultations will commence On Jan. 10 <sup>th</sup> , 2011 in Nunavut with the following groups:<br>Dept Economic Development & Transportation                                                                                                                                                                                                                                                                                                                                        |

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|                             | <p>Department of Environment<br/>Environmental Protection Division<br/>Fisheries &amp; Sealings Division<br/>Department of Fisheries and Oceans (DFO)<br/>Indian Northern Affairs Canada (INAC) Canadian Northern Economic Development Agency<br/>Nunavut Research Institution<br/>Qikiqtani Inuit Association (QIA)<br/>Baffin Fisheries Coalition (Rescheduled Fisheries and Oceans (DFO) Habitat Mgmt</p> <p>During these meetings and presentations, information will be exchanged about the survey and area fisheries, and issues and mitigations identified for the assessment.</p> <p>Meetings are currently being set-up for a following up visit with the following HTO groups;<br/>Clyde River – NAMAUTAQ<br/>Iqaluit HTA – AMARUQ<br/>Kimmirut HTA – MAYUKALIK<br/>Pangnirtung HTA<br/>Pond Inlet HTA – MITTAMATALIK<br/>Qikiqtarjuaq HTA – NATTIVAK</p> |
| Other applicable EA regimes | <p>Nunavut Planning Commission, application to determine conformity with the North Baffin Regional Land Use Plan will be subitted to NPC. Brian Aglukark has been contacted and sent a copy of this Project Description.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Proponent/co-proponents     | <p>TGS-NOPEC Geophysical Company AS<br/>2500 CityWest Blvd. Suite 2000<br/>Houston, Texas 77042-3018</p> <p>PGS<br/>Multi Klient Invest AS (Association of PGS)<br/>(An Association of PGS)<br/>15150 Memorial Drive<br/>Houston, Texas, USA<br/>77079</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Contacts                    | TGS-NOPEC Geophysical Company ASA – Oslo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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|                                                              | <p>Baarsrudveien 2, N-3478 Naersnes<br/>Norway<br/>Contact: Knut Agersborg<br/>Phone: 011-47-6676-9927<br/>Cell: 011-47-9547-8142<br/>Email: knut.agerborg@tgsnopec.com</p> <p><u>Operator and Work Authorization Applicant</u></p> <p>Multi Klient Invest AS<br/>(An Association of PGS)<br/>15150 Memorial Drive<br/>Houston, Texas, USA<br/>77079<br/>Contact: Gary Morrow<br/>Tel: (281) 509-8000<br/>Fax: 713-860-2260<br/>Email: Gary.Morrow@pgs.com]</p> <p><u>Lead Canadian Consultancy</u><br/>RPS Energy<br/>1545 Birmingham Street, 2<sup>nd</sup> Floor<br/>Halifax, Nova Scotia, B3J 2J6<br/>Contact: Darlene Davis<br/>Tel: (902) 492-0281<br/>Cell: (902) 790-1212<br/>Email: davisd@rpsgroup.com</p> |
| Federal involvement<br>(ownership of the land<br>to be used) | Canadian offshore, not within 12 nautical miles<br>of any coastline                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Authorizations required                                      | NEB Geophysical Operation Authorization                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| <b>2. Project Information</b>        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| Main project components              | A conventional 2D seismic spread including a dedicated survey vessel using a single towed streamer (PGS Geo Streamer), source array, and associated survey equipment and personnel.                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Project size                         | The survey will be limited to the work area (Approx 17, 530 linear km) defined by Figure 1,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Project activities                   | 2D Marine Seismic Exploration Survey                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Schedule                             | <p>June 2011 through November 15 2011 as a function of location, weather conditions, and vessel availability.</p> <p>The work is expected to commence in 2011 and continue on a seasonal basis, requiring approximately 5 years to complete (the entire program). It is anticipated that this work will commence approximately June 2011, depending on the factors described above. Based on work completed offshore neighboring Greenland in recent years, it is expected that operations may be possible into November. The EA will also assess the shoulder months to this work season in the event that favorable conditions exist.</p> |
| On site land use                     | The vessel will call ports in Canada and /or Greenland (Nuuk) for crew changes and supply operations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Resource /material requirements      | The resource/material requirements for the project will consist of those normal in vessel operations with a crew of approximately 35 professionals operations on a 24-hour basis.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Toxic/hazardous materials to be uses | Toxic and hazardous materials onboard the survey vessel will be those associated with normal vessel operations (i.e. paints, batteries, fuels, solvents, etc). All materials will be properly stored, handled, and managed, with Material Safety Data sheets (MSDS) retained onboard and at all pertinent workstations for crew to have easy access to the hazard information for all the chemicals and other potentially harmful substances with which they work. All crew will have appropriate WHMIS training courses.                                                                                                                   |
| Wastes produced                      | The wastes generated during the survey will consist of those normal in vessel operations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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|                           | <p>These include; atmospheric emissions, ballast water, bilge water, deck drainage, grey and black water, and solid waste.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Waste disposal procedures | <p>The survey vessel will comply with all applicable regulations concerning management of waste and discharges of materials into the marine environment.</p> <p>The survey will be conducted with a dedicated seismic research vessel. The vessel will have equipment, systems, and protocols in place for prevention of pollution by oil, sewage, and garbage in accordance with international standards and certification authorities. The vessel will be subject to pre-survey audits by the regulators and the operator in the port of mobilization (St. John's NF) prior to survey commencement.</p> <p>A project safety plan will be developed and presented for the project based on the model used for previous work authorization applications to the boards. The survey vessel will comply with all applicable regulations concerning the marine environment.</p> |

| <b>3. Project Site Information</b>    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| Project Location                      | Baffin Bay, Davis Strait, (see Figure 1,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Environmental features                | <p>The environmental features relative to the proposed survey area fall under the physical and biological setting, and these will be discussed in the Environmental Assessment. These include the following;</p> <p><u>Physical Setting</u></p> <ul style="list-style-type: none"> <li>• Geomorphology</li> <li>• Ocean Current and Temperature</li> <li>• Weather and Sea State</li> <li>• Ice</li> </ul> <p><u>Biological Setting</u></p> <ul style="list-style-type: none"> <li>• Marine Fish and Invertebrates</li> <li>• Fish Eggs and Larvae</li> <li>• Marine Mammals</li> <li>• Marine Birds</li> <li>• Plankton</li> <li>• Benthic Communities</li> <li>• Species at Risk</li> </ul> |
| Human use (project and adjacent area) | <p>The human uses of the survey area may include:</p> <ul style="list-style-type: none"> <li>• Fisheries</li> <li>• Shipping</li> <li>• Military</li> <li>• Exploration</li> <li>• Recreational</li> <li>• Research</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                |



Figure 1.- Full Survey Area

