

MEMORANDUM

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Dear Colleagues,

The Sierra Club of Canada wishes to follow up on the NGO EIA workshop hosted by the Mackenzie Producers Group on December 9 and 10 in Yellowknife. We very much appreciate the opportunity to discuss the work on the environmental assessment carried out to date for the proposed Mackenzie Gas Project (MGP) that this workshop afforded.

However, we wish to express our grave concern about the process for setting the terms of reference for the environmental assessment of the MGP, which at this point is almost completely opaque. The environmental assessment being planned by MGP is seriously deficient in a number of areas some of which are outlined below. The virtual absence of government, board and agency representation at the December 9-10 workshop certainly does not give us any

comfort that these deficiencies are likely to be addressed in the terms of reference nor in the proponent's Environmental Impact Statement.

Therefore, we wish to clarify and build on the input we provided at the NGO EIA workshop. The key environmental assessment issues that we believe must be addressed in the Environmental Impact Statement are set out below:

- Winter Field Studies for Fish
- Pipeline Breakage
- Greenhouse Gas Emissions and Carbon Sequestration
- Landscape-scale Assessment
- Biodiversity and Species at Risk
- Protected Area Networks
- Cumulative Effects Assessment
- Impacts of Climate Change

Carry out winter field studies to determine effects of stream crossings on fish habitat –

The proposed pipeline will cross some 500 rivers and streams along the route, and construction of these crossings will be conducted in winter. Virtually no winter field work has yet been done to collect baseline data on fish populations and habitat at these locations, and field work done during summer months is of limited assistance in determining the significance of construction impacts (e.g., increased sediment loads) on fish and fish habitat. The terms of reference for the EIS must require that such data be collected.

Assess risk of pipeline break – It is essential that the EIS assess the risk of a break in the pipeline resulting from extraordinary forces such as frost heave. Given the high pressure of the gas in the pipeline (180 atmospheres), such a break could be catastrophic, tearing up the pipeline for many kilometers from the break point. One possible scenario that must be examined is as follows: Permafrost does not occur under rivers to be crossed by the pipeline due to the warming effect of the river water. At such crossings, the pipeline is constructed through permafrost soils beside the river to be crossed then through non-permafrost gravels and sands under the river and then back into permafrost soils on the other side of the crossing. The cold natural gas flowing through the pipeline will tend to freeze the gravels and sands under the river to be crossed. This freezing of the subriverine gravels and sands could generate tremendous frost heave forces that could result in a pipeline break, especially in permafrost/non-permafrost transition zones. The EIS must assess in detail such risks and how the proponent proposes to address and mitigate them.

Measure Greenhouse Gas Emissions and Changes in Carbon Sequestration Capacity - The environmental assessment of the Mackenzie Valley Pipeline and the EIS in particular represents a tremendous opportunity to better understand the changes to greenhouse gas emissions and changes in carbon sequestration capacity in boreal regions that projects such as the MGP are likely to cause. The forests and wetlands of the boreal region are the largest storehouse of carbon on the planet. The Mackenzie Valley Project will certainly result in releases of methane and carbon dioxide as a result of forest cutting, draining of wetlands, and construction activities. The EIS must include baseline measurement of total carbon currently stored and current fluxes of greenhouse gas emissions relating to the MGP study area. The EIS must also measure the

amounts of greenhouse gases expected to be released by construction and operation activities of the MGP over the life of the project and changes in the capacity of the natural ecosystems in the study area to store carbon over the life of the project. In addition to the direct impacts on climate change there should be an examination of the indirect impacts. This should include consideration both of the emissions from the gas itself as well as the subsidiary emissions (such as the use of gas from the project to develop the Athabasca Tar Sands).

Adopt Landscape-scale Approach – A landscape-scale approach is essential in the EIS of the Mackenzie Valley Project, given the 1400-km length of the pipeline and that it would certainly be only the first in a series of major phases of oil and gas development in the Mackenzie Valley. Once the pipeline is built, oil and gas exploration and other industrial activity would likely accelerate in adjacent regions. Thus, the EIS and the environmental assessment generally must examine effects at a landscape scale; mitigation measures and regulatory approaches must also be addressed at a landscape scale.

Broaden the Scope of the Assessment The EIS must examine all environmental effects of the project as required by the Canadian Environmental Assessment Act and not be limited to examining effects in the proposed one-kilometre wide pipeline corridor study area. The approach taken to the study of biophysical effects should be similar to that proposed in the Preliminary Information Package (PIP) for study of socio-economic effects (i.e., a 200 km corridor) be adopted.

Adopt State of the Art Approach to Assessing Cumulative Environmental Effects - The tremendous scale of the MGP demands a state of the art approach to assessing the cumulative effects of the MGP in combination with other projects that are occurring or are likely to occur. The Guidelines prepared by the Canadian Environmental Assessment Agency should be rigorously employed and the assessment should meet or exceed the standard set by the cumulative effects assessment conducted for the proposed Cheviot Coal Mine Project. Current oil and gas exploration projects should be included in the assessment as well as oil and gas projects that are likely to occur for identified oil or gas reserves in the Mackenzie Valley and Delta. The cumulative effects assessment should also consider cumulative effects relating to tar sands development on the assumption that Mackenzie Valley gas will be used in one of more of the proposed Athabasca Tar Sands developments.

Assess Effects on Biodiversity and Species at Risk – The documents provided to, and presentations made to the NGO EIA workshop include no references to either biodiversity or species at risk. Clearly, the EIS must address all effects in both areas. Issues such as identification of critical habitat for species at risk required under the Species at Risk Act, and compliance with the Canadian Biodiversity Strategy and the Biodiversity Convention needs serious effort in the EIS.

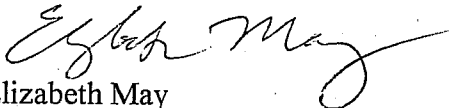
Establish Protected Area Networks – Prior to completion of the MVP, a network of protected areas must be established to adequately represent the ecoregions affected by such development and safeguard wildlife habitats and culturally significant areas. The EIS and EA must address clearly the impact the MGP and other likely projects related to the MGP will have on the ability to complete a representative network of protected areas recognizing that cumulative effects will

occur at a landscape scale even beyond the lifespan of the MGP. To achieve this goal, current protected areas as well as protected areas proposed under the NWT Protected Areas Strategy or under comprehensive claims agreements must be identified and conflicts and gaps addressed.

Impacts of Climate Change on Project – Since the current and projected future impacts of climate change are particularly severe in Canada's northern regions, the Mackenzie Valley can be expected to be subjected to rapid and unprecedented climatic change. The EIS needs to examine how projected future climatic changes (affecting wildlife habitat, permafrost, ecoregion boundaries, socioeconomic conditions, etc) may exacerbate impacts of the project.

It hardly bears restatement that the \$5 billion Mackenzie Gas Product is Canada's biggest megaproject since the Great Whale hydroelectric project in the 1980s. The MGP would completely transform the Northwest Territories and have tremendous social, economic and environmental implications at continental and global scales as well as local effects.

Sincerely



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