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Record of Discussion and Action Items

Interagency / BIMC Workshop on the Proposed Mary River Project

Frobisher Inn, Iqaluit, Nunavut

July 12-14, 2011

The workshop sessions were facilitated by Matthew Pickard (BIM) and Stephen Williamson Bathory (QIA). Agendas are attached as Appendix 1.

Action:

- It was agreed that a record of discussion and action items would be generated and circulated to the participants for approval and then transmitted to NIRB.
- BIM will issue a letter to NIRB describing the IR interagency information exchange process that has been underway over the past several weeks and expected outcomes.

Tuesday, June 12, 2011 – Caribou Session

Participants

Amy Shen	AANDC
Mike Setterington	EDI/BIM
Oliver Curran	BIM
Andrew Maher	PC
Marie Duchaine	GN/Executive
Jean Daniel Blouin	GN/DOE
Dianne Lapierre	GN/ED&T
Colin Saunders	Pond Inlet
Cheryl Wray	QIA
Solomon Awa	QIA
Stephen Bathory	QIA
Kim Poole	QIA
Matthew Pickard	BIM
Michelle Boyle	QIA
Lorraine Brooke	QIA
Anne O'Toole	BIM
Bob St.Eloi	QIA
Manik Duggar	NPMO
Johann Pelage	NPMO
Luc Fortin	CTA
John Olyslager	PC

The purpose of this session was to allow the regulatory agencies, QIA, community representatives and BIM to engage in an open discussion concerning the DEIS, the status of Information Requests and other matters related to caribou and other terrestrial wildlife to support input into the Technical Review.

The regulatory agencies, QIA and the community representatives agreed to the following areas of overlap and common concern as priority topics for discussion with BIM:

- Will the railway act as a filter or barrier for caribou
- Further discussion on the effects of dust
- Effect on ecological integrity
- Uncertainty of information provided, especially given that caribou are at the low end of a cycle
- Possible use of islands by caribou in Steensby Inlet and influence of ice-breaking restricting movement
- Calving distribution and vulnerability of cows and young calves
- Terrestrial bird baseline and assessment adequacy
- Monitoring and adaptive management

All participants made it clear that they had not yet had the time to do a full review of the June 30, 2011 Addendum for the removal of the road haulage option and modifications to the effects assessments and predictions.

Calving

There was a discussion on the limitations of scientific information available on caribou and caribou habitat for the north Baffin region and islands in Steensby Inlet. There was agreement that BIM had made considerable effort had been put into collecting baseline IQ. The lack of information raises uncertainties about impact prediction, particularly for a recovering population. Both IQ and existing scientific information show that caribou calve in the region surrounding Milne Inlet. However, existing scientific information also suggests that the region can be defined as a disbursed or non-congregating calving area and therefore has the potential for heightened vulnerability. The DEIS did not propose any specific mitigation for the calving areas or during the calving and post-calving periods which led to a discussion about the importance of a comprehensive monitoring program designed around the ability to detect change.

Action:

- BIM will request that GN provide the parties with their most recent available information on caribou.

- BIM will look further into the model used for determining suitable vegetation and will commit to what can be provided within existing timelines for the Technical Review and FEIS completion.
- BIM will determine if other information exists to support mitigation forecasting around vulnerabilities and sensitivities e.g. vegetation and recommend what can be done in the Technical Review timeline and further into the FEIS.

Railway as a Barrier or Filter

There was discussion and clarification of materials to be used to construct the rail bed and at planned caribou crossings. Only the crossings will be 'caribou friendly'. IQ was used to determine appropriate crossing areas. Otherwise the rail bed will be constructed with larger materials which could present a danger to caribou attempting to cross at those points. The effect of drifting snow as a potential barrier in the winter was also discussed.

Further it was noted that during the winter, it is very difficult to predict crossings and whether caribou will use the rail line as a trail during the winter. It will take a train approximately 14 minutes to cross a point and this will occur every 6 hours. It would take 2 km to stop a train traveling at 60 km/hr. Information from experiences with diamond mines in the western Arctic suggest that caribou will avoid disturbed areas. Community representatives noted that once leaders begin to cross, others will follow despite the danger.

Action:

- The potential effects of the railway will be built into the monitoring program.
- It is agreed that monitoring and mitigation plans need to be updated and become more robust as the project advances so that issues are not left to the end. Monitoring and mitigation sessions need to commence prior to potential impacts. QIA suggests a workshop after the technical review of the DEIS is complete to focus on monitoring. PC identifies that the management decisions need to be included for the threshold at which mitigation needs to begin.

Islands in Steensby Inlet

A discussion took place regarding sea ice as important caribou habitat. Given that solid, land fast ice does not refreeze, the winter shipping route could present a barrier to movement of caribou in Steensby Inlet.

Action:

- BIM will reassess harvest data and include the islands and sea ice as habitat in the FEIS. Will also draw on more recent information from the GN on Peary Caribou.

Dust

The discussion centered on (a) defining an appropriate zone of influence and (b) iron concentrate and potential health effects to caribou and other wildlife. It was also noted in this instance, that if caribou choose to avoid areas where food sources are effected by dust (taste, smell), this will have an effect for Inuit harvesters. Also if animals are displaced to less optimal habitat this may have an effect on the overall health of the population.

Action:

- BIM will re-run the air quality model for the FEIS drawing recent information generated from work done at the Diavik mine.
- BIM will conduct the same analysis for the tote road to generate baseline information.
- BIM and QIA experts will continue discussion on significance determination.
- BIM will collect more data on iron content prior to construction as a baseline and for the purposes of monitoring.
- BIM will conduct lichen sampling and metals analysis of vegetation for the project area will be addressed through development of more detailed monitoring plans.

Monitoring

There was a discussion on the benefits of a comprehensive monitoring program that meets the needs of all the parties being designed collaboratively prior to the completion of the FEIS. The monitoring and management plans should at a minimum identify what needs to be monitored and how, identify thresholds for intervention and describe the responsibilities of all parties.

Action:

- It was agreed that a small core group be mandated, after the Technical Review, to work on an enhanced monitoring program, including thresholds for intervention.

Terrestrial Birds

There was a discussion and agreement that the baseline information for terrestrial birds did not provide sufficient information to be useful for impact prediction. The DEIS was therefore descriptive in nature.

Action:

- BIM will continue data collection and review and analyse the existing database of information, particularly for raptors and endangered species.
- BIM will use plot data to calculate rough densities by habitat type. Raptor team on site in 2011 will clean data and confirm nest sites. EC is requesting revisions to bird baseline.

Wednesday, June 13, 2011 - Marine Mammals Session

Participants

Rosanne D'Orazio	AANDC
Bevin LeDrew	BIM
Val Moulton	BIM
Oliver Curran	BIM
Siu-Ling Han	CWS
Allison Dunn	EC
Marie Duchaine	GN-Executive
Jean Daniel Blouin	GN/DOE
Dianne Lapierre	GN/ED&T
Colin Saunders	Pond Inlet
Cheryl Wray	QIA
Solomon Awa	QIA
Stephen Bathory	QIA
Bruce Stewart	QIA
Jeff Higdon	QIA
Matthew Pickard	BIM
Michelle Boyle	QIA
Lorraine Brooke	QIA
Kim Poole	QIA
Anne O'Toole	BIM
Georgina Wiliston	DFO
Derek Moggy	DFO
Manik Duggar	NPMO
Johann Pelage	NPMO
John Olyslager	PC

The session began with a review of meetings concerning marine mammals on July 5 and 6, 2011 in Winnipeg. The July 5th meeting was between the regulatory agencies and QIA which produced a list of common concerns. The July 6th meeting included BIM and focused on reviewing and advancing DFO's IRs. The record with action items from these meetings will be submitted as part of the records for those meetings.

The purpose of this session was to continue building the relationship between BIM and the 'review community'. The regulatory agencies, QIA and the community representatives reaffirmed the following areas of overlap and common concern:

- Adequacy of sampling baseline for impact prediction and monitoring (data to enable prediction of effects of their significance)
- Baseline information and DEIS restricted to the NSA

- Use of 10% and 20% thresholds to assess the magnitude of effects on marine species and habitats, respectively without adequate justification
- Possible variations in ship route and potential effects not fully described in the DEIS
- Effects assessment and mitigation measures specific to wildlife sensitivities not fully described in the DEIS
- Aircraft noise and significance of aircraft disturbance
- Impact of project on sea ice regimes and consequent impact on wildlife and Inuit travel/harvesting
- Likelihood and resulting impacts of species displacement on wildlife populations and Inuit harvesting
- Ballast water concerns around species introduction, water exchange and treatment
- Use the 50kPa threshold for blasting under ice cover as a precautionary measure
- Further exploration of possible adaptive management measures that would be feasible for mitigating vessel impacts
- Appropriateness of VEC selection for impact prediction and monitoring

Again all participants made it clear that they had not yet had the time to do a full review of the June 30, 2011 Addendum for the removal of the road haulage option and modifications to the effects assessments and predictions.

From the above list, the following topics were identified as priorities for discussion with BIM:

- Shipping route sensitivity analysis – information gaps, bathymetry, sea ice data and geographic area
- Adequacy of assessment of Milne Inlet shipping route for the 5-year staging and construction period
- Baseline information related to lower trophic levels in the marine environment
- Adaptive management, evolution of project design and seasonal closures

Shipping Route Sensitivity Analysis

There was discussion on the treatment of sea ice in the DEIS and the lack of differentiation from a habitat perspective. There was further discussion on working with a 30-year standard for sea ice data series. Other topics of discussion included gap analysis, identification of hot spots, ballast water effects, salinity, bathymetry, ship operations and risks of accidents as well as cumulative effects, zone of influence for wake effects particularly for sea birds, ship design and ice breaking efficiency and appropriate geographic coverage for sensitivity analysis. It was concluded that more work on sensitivity analysis was needed which would provide all parties with a needed tool for future adaptive management.

Action:

- BIM will collect more ice data from CIS and consider ways to analyse over an extended (30-year) period and over a larger geographic area.
- BIM will collect new bathymetry data in the early fall of 2011.
- BIM will provide the parties with an approach for analysing sea ice habitat from a species perspective.
- BIM will calculate the potential zone of influence for wake effects.
- BIM will provide the parties with more information on ship specifications (understanding that design is in progress and may not be completed for the FEIS).
- BIM will ask FEDNAV if chemicals are used for de-icing and provide the response.
- BIM will make the calculation of number of vessel days in Arctic waters during construction and operation and estimate theoretical discharge volumes of oil/lubricants, emissions and noise levels.

Shipping in Milne Inlet

BIM reviewed the shipping plans for Year 0 (pre-construction) and Years 1-4 (construction) and other operations at the Milne Inlet base. Afterwards, one ship every 5 years will operate to transport materials too large for the railway. All shipping will be in the open water season using free market vessels. It was noted by Parks Canada that plans to establish a National Marine Conservation Area in Lancaster Sound requires that agencies apply a higher standard of care to the region.

Action:

- BIM will provide additional information in the FEIS on ship safety criteria (criteria required by Arcelor)

Adequacy of Baseline Information

The discussion built on the results of the meetings in Winnipeg, with an added focus on how to work to create a baseline for the lower trophic levels, address gaps and move into adaptive management. The use of Arctic char as a key indicator for marine species was challenged and the lack of information on benthos as a key link in the food chain and effects on marine mammals was also discussed. There was also concern raised by all of the reviewing parties about the lack of scientific data available generally on the marine environment for the project area. There was also discussion about lack of information in the DEIS on impact prediction methodology and uncertainties around determination of significance.

Action:

- BIM will consolidate and cross reference all IRs that overlap with DFO's IRs that relate to the adequacy of baseline information.
- BIM will clarify how they will be addressing specific data gaps.

Note: The parties at the July 5th and 6th meetings in Winnipeg agreed to follow up meetings relevant to this topic. DFO will take the lead to organize a small group of experts to look at what could be done to fill the gap in understanding and the effect on impact assessment. Transport Canada will organize an internal federal agency meeting on ballast water. INAC will organize an interagency meeting on closure, reclamation and management plans.

Adaptive Management

The reviewing parties all agreed that focused attention is required now to begin building a community-based monitoring program with feedback to management and thresholds for intervention. Given the challenges related to uncertainty, sensitivity to detect change, attribution and scale, a collaborative process drawing on the expertise of all parties is warranted. It was also noted that this topic is relevant to the IIBA that is currently under development. All parties agreed to the importance of continuing to collaborate and provide input into the development of a monitoring program.

Thursday July 14, 2011 – Socio- Economic Session

Participants

Natalie Strijak	GN/Health
Energy Chris Down	EIA
Chris Fraser	GN/Finance
Dianne Lapierre	GN/ED&T
Seth Reinhart	AANDC
Rosanne D'Orazio	AANDC
Manik Duggar	NPMO
Colin Saunders	Pond Inlet
Solomon Awa	QIA
Cheryl Wray	QIA
Stephen Williamson Bathory	QIA
Michelle Boyle	QIA
Lorraine Brooke	QIA
Oliver Curan	BIM
Doug Brubacher	BIM
Anne O'Toole	BIM
Matthew Pickard	BIM
Paul Quassa	Igloolik

The session began with a note that QIA did not review the economic models used in calculating effects on the territorial economy, or the technical adequacy of archaeological and Inuit knowledge studies, or human health aspects related to accidents and contamination. In response, the GN noted that they have been reviewing the economic impact assessment and the archaeological studies in the DEIS.

It was agreed that the focus of the session would be on project monitoring and IR responses. It was also agreed that in terms of potential impacts of the project on Inuit, it would be prudent to link the previous days' discussions on VECs and how they impact on Inuit. Further it was agreed that monitoring of socio-economic impacts will require collaboration among several government agencies, QIA, communities and BIM, each having specific responsibilities in this area. A common goal is to have the monitoring program and management plans well enough advanced for inclusion in the FEIS. Further it was understood that elements of the IIBA could also factor in a monitoring structure.

Community representatives noted specific concerns about impact prediction in the areas of wildlife and associated effects on Inuit harvesting, food security and proactive efforts to assist Inuit in receiving employment and money management. They also stated that the communities would want to know as soon as possible the details of monitoring and management plans to gain a comfort level that preventative measures will be in place. Further the community representatives raised the issue of GN redirecting new revenues generated by the project into programs and infrastructure to assist the affected communities to mitigate impacts.

There was discussion on the methodology used to determine significance of impacts even in the absence of more detailed baseline information. Suggestions included working with data from similar projects

elsewhere in northern Canada or the world. There was also discussion on utilizing the EA process as a tool to inform monitoring, mitigation and management plans.

The GN took the lead on a discussion concerning impacts on the territorial economy. Several questions were raised including transparency of the economic models used, limited analysis at the regional or community level, scale of the project warranting further discussion which cannot be limited by data restrictions, and leakage of benefits/profits out of Nunavut. BIM also stated a commitment to negotiate a Development Partnership Agreement (DPA) but could not say how or when.

Outstanding IRs from GN, QIA and INAC were reviewed. Responses will be integrated by BIM into their response spreadsheet. Of particular note was the discussion on the interaction of effects and uncertainties across VECs and VSECs, and the implications for determining impact significance and assessing cumulative effects.

Action:

- Generally there was agreement for Doug B and INAC to work through outstanding issues as needed.
- BIM will look at impacts on subsistence hunters who choose not to work with the mine and direct/indirect effects on harvesting, food security.
- BIM will provide more analysis on risks if employment or other economic predictions are not realized.
- BIM will work with QIA and other agencies to begin the development of a monitoring program.
- QIA, GN and AANDC will further discuss the elements of a monitoring program, including roles and responsibilities, an appropriate integrated structure, indicators and development timelines over the period of the Technical Review and come back to BIM.
- GN will send BIM and QIA the DPA with Agnico-Eagle.
- BIM will prepare a document in response to concerns raised by INAC:IR-105 concerning cumulative effects.
- BIM will review the experience from Nanisivik and Jericho mines for additional insight and possible areas meriting further analysis with regards to relevant VSECs for inclusion in the FEIS.BIM anticipates including a discussion of effects on households as a Subject Of Note in Volume 4, Section 6.6.

Note: QIA made a request to CANNOR/NPMO to provide funding for a tour by representatives of all regulators involved in the project, to provide the affected communities with information on the review and regulatory processes.

11 August 2011

Tuesday, July 12, 2011 – Caribou

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Confirmed Parties:

Qikiqtani Inuit Association, Parks Canada, Environment Canada, Indian and Northern Affairs Canada, Canadian Transport Agency (by teleconference), Government of Nunavut (socio-economic personnel)

Meeting Schedule:

8:30-8:45	Introductions (All)
8:45-9:45	Review Party Mandates and Review Status Relative to Caribou and Terrestrial Wildlife (Baffinland Not Present)
9:45-10:00	*Break (All)*
10:00-12:00	Discussion of the June 30th Package Relative to Terrestrial Features
	Review of Outstanding Information Requests (All Parties)
12:00-1:00	*Lunch (All)*
1:00-3:15	Discussion Technical Matters (Parties All)
3:15-3:00	*Break (All)*
3:30-4:30	Discussion Technical Matters (Parties All)
	-or-
	Review Party Discussion (Baffinland Not Present)
4:30-5:00	Next Steps (Parties All)

Items to Guide Discussions:

- North Baffin caribou distribution and abundance - changes during the cycle, uncertainty, and implications to monitoring and management;
- Calving distribution relative to the mine site – temporal changes and implications to the population, vulnerability of cows and young calves;
- Caribou migration and dispersal consequences of the possible 'filtering' effect of the railway and train traffic on caribou movements;
- Possible use of islands in Steensby Inlet by caribou – influences of ice-breaking on movements;
- Dust – implications to Zone of Influence and caribou health, distribution and abundance;
- Monitoring programs:
    - Management structure of monitoring, reporting, public watchdog agency;
    - Scaling the caribou monitoring program to the caribou cycle – implications for an adaptive design of monitoring
    - Scale of monitoring: local versus regional (North Baffin and beyond the ZOI (dust or vibration related);
- Terrestrial bird baseline and assessment adequacy;
    - Quality of data summarization and quantification of data;

Wednesday, July 13, 2011 – Marine Mammal

Frobisher Inn

Confirmed Parties:

Qikiqtani Inuit Association, Department of Fisheries and Oceans, Transport Canada, Natural resources Canada (by teleconference), Parks Canada, Environment Canada, Indian and Northern Affairs Canada, Canadian Transport Agency (by teleconference), Government of Nunavut (socio-economic personnel)

Meeting Schedule:

8:30-8:45	Introductions (All)
8:45-9:15	Review of Winnipeg Meetings (All)
	Effects of Removal of the Road Haulage Option Relative to Marine Mammals
9:15-10:15	Identify Areas of Overlapping Concern to Focus Discussions (Baffinland not present)
10:15-10:30	Break (All)
10:30-12:00	Discussion of Outstanding Information Requests (IRs) with a Common Theme (All)
12:00-1:00	*Lunch* (All)
1:00-3:15	Discussion of Outstanding IRs and Technical Matters Related to Impact Assessment and Monitoring (All)

- Shipping Route Sensitivity Analysis
- Sediment Disturbance
- Noise effects
- Others (e.g., polar bears, marine birds)

3:15-3:30	*Break* (All)
3:30-4:30	Discussion of Options for Impact Mitigation and Habitat Compensation (All)

- Adaptive Management Related to Shipping and other Marine Activities
- Compensation for Habitat Loss
- Other

4:30-5:00	Next Steps (All)

Thursday, July 14, 2011 – Project Socio-Economics

Frobisher Inn

Confirmed Parties:

Qikiqtani Inuit Association, Government of Nunavut, Indian and Northern Affairs Canada,

Meeting Schedule:

8:30-8:45	Introductions (All)
	Review of Agenda, Objectives and Discussion Points
8:45-10:15	Approach to Outstanding Information Requests, Discussion of the June 30th Package Relative to Socio-Economic Features
10:15-10:30	*Break (All)*
10:30-12:00	Clarification of principles and assumptions related to effects assessments and impact predictions.
12:00-1:00	*Lunch (All)*
1:00-3:15	Cumulative Impacts Assessment
	Project monitoring (Company, Government, Inuit Org.)
3:15-3:30	*Break (All)*
3:30-4:30	Continued Discussion, or, time for QIA, GN and INAC to discuss items (All or Only Reviewing Parties).
4:30-5:00	Next Steps (Parties All)