

**10<sup>th</sup> Environmental Agreement Implementation Meeting  
Yellowknife, NT  
Summary of Discussion  
January 21, 2011**

*Revised: February 17, 2011*

Participants

Lionel Marcinkoski, Indian and Northern Affairs Canada (INAC)  
Francis Jackson, INAC  
Patrick Clancy, Government of Northwest Territories (GNWT)  
Bill Ross, Independent Environmental Monitoring Agency (IEMA)  
Tim Byers, IEMA  
Kevin O'Reilly, IEMA  
Monica Krieger, IEMA  
Keith McLean, BHP Billiton (BHPB)  
Eric Denholm (BHPB) – by phone

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*Meeting commenced 9:00am.*

**INTRODUCTIONS AND SELECTION OF CHAIRPERSON**

Round-table introductions were made. Patrick Clancy was selected to serve as the chairperson for the meeting.

**REVIEW AND APPROVAL OF PREVIOUS MINUTES**

The minutes of the June 2, 2010 meeting were reviewed. Kevin noted that Lorraine Seale (INAC) had suggested changes to the draft minutes which have been incorporated into the current version.

**Motion to accept the minutes of June 2, 2010 as written.**

**Moved by Bill Ross. Seconded by Lionel Marcinkoski. Carried without objection.**

**REVIEW OF PURPOSE AND AGENDA**

The purpose of the January meeting as set out in the 2006 Resolution Agreement was reviewed (i.e. to provide participants with an opportunity to discuss IEMA's work plans, budgets, findings and recommendations, and BHPB's programs and projections for the next year).

**IEMA PRESENTATION ON RECOMMENDATIONS AND FINDINGS**

Bill reviewed the Agency's recommendations from the 2009-10 Annual Report and responses from BHPB and INAC (see PowerPoint presentation for details, distributed before the meeting and available from the Agency). Outcomes and current status of these issues was also discussed:

1. Review of diamond mine wildlife monitoring programs: Two workshops were held in 2010, and the Agency is awaiting the final report on the October community and Traditional Knowledge workshop as well as the companies' responses to recommendations.

2. Environmental Impact Report (EIR) workshop: Recent discussions with BHPB indicate August or September as a likely workshop dates. The Agency will release a discussion paper dealing with the EIR later this month.
3. Review of Traditional Knowledge (TK) programs: The Agency and BHPB continue to differ on this recommendation. BHPB has created a new position of TK Advisor for the Environment department (Charles Klengenber), and the Agency will invite him to the next Board meeting in Yellowknife.

Bill reviewed Agency findings and submissions to date for 2010-11 as well as outcomes (see PowerPoint presentation for details, distributed before the meeting and available from the Agency). He noted that BHPB responses are largely favourable, but usually provided orally and not in writing. Also, the Wek'èezhì Land and Water Board (WLWB) has often incorporated Agency comments and concerns in its approvals.

Agency submissions were sent to BHPB, WLWB, INAC, GNWT, and others. They included comments on aquatics, air quality, closure and reclamation, wildlife, Environmental Impact Report (EIR), Environmental Agreement and Water License Annual Report, and administration matters.

It was noted BHPB had not sent a response to the Agency's May 17, 2010 letter on the Ideal Performance Standard (IPS) for nitrate. The Agency felt that BHPB should use the more precautionary level because lake trout are a very sensitive species living downstream. Eric stated there had been discussions with Rescan about this issue, and he will check on the status of the response.

Eric also noted that the Agency-commissioned peer review (conducted by Bill Tonn) of the 10-Year Summary of Panda Diversion Channel Monitoring Program will be considered in further discussions with Department of Fisheries and Oceans (DFO). This monitoring program will soon be closed off under the Fisheries Authorization, with perhaps another field season to collect additional data or address information gaps.

There was a discussion regarding the Agency's environmental workshop held November 17, 2010. The Agency felt the workshop, focusing on air quality, was a success and thanked BHPB for participating. Eric added that BHPB was also pleased with the workshop, and felt it was more useful to focus on a specific topic of interest rather than a broad overview of all environmental issues at Ekati. Bill responded that this will be considered for future workshops.

The joint diamond mine review of wildlife monitoring programs was discussed. Kevin noted that GNWT-ENR is suggesting a joint meeting in early February with the three mines and three monitoring agencies. The Agency has encouraged this but recognizes this may not be possible prior to the mid-February target for EKATI's 2011 wildlife research permit application. It would be useful to know the companies' responses to recommendations from the two 2010 workshops.

Eric noted that BHPB staff are preparing specific responses to comments on the 2009 Environmental Agreement Annual Report.

Kevin thanked Eric and Krystal at BHPB for handling the Agency working capital deficit in a very efficient manner. The transfer of contributed services (Agency office space, photocopier leases and office cleaning contract) have also benefited from BHPB's cooperation.

#### **BHPB PRESENTATION ON ENVIRONMENTAL AND OPERATIONS TOPICS 2011**

Eric and Keith reviewed current and future operations, permitting and environmental management topics at Ekati for 2011 (see PowerPoint presentation for details, distributed before the meeting and available from the Agency).

**Comment [D1]:** Mid-February is not a deadline; I recall that we said that we were targeting mid-February for release of the research application, as is also stated later in the minutes.

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**Comment [D2]:** The review comments and subsequent responses circulated through the INAC-led review process are applicable only to the Environmental Agreement Annual Report, not the EIR or the 2010 Water Licence Annual Report. This applies several times throughout.

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**2011 Operations** include the Panda Diversion Channel (PDC) slope enhancement project, Misery open pit pushback, and further [engineering feasibility assessment of Pigeon open pit](#).

**Comment [D3]:** There si no planned development work at the Pigeon site in 2011.

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Eric discussed comments on the **Misery pushback** submitted to the WLWB by the Agency, INAC and GNWT. An additional information package will be circulated within the next month. Final internal approvals are underway, and detailed engineering plans have looked at whether there is a hydraulic connection from Lac de Gras into the pit. BHPB is satisfied the pushback pit will be completely contained by permafrost and there is no indication of any connective fault structures with Lac de Gras. With a few minor changes and updated to incorporate the latest information, the pushback is as the pit development was envisioned in 1995. Bill asked whether rock is blasted around the entire pit (i.e. push back in every direction) in order to get the spiral road going down. Eric replied that as the pushback proceeds, you only need access onto benches on the western and northern sides. Ramps are still necessary but only as far as the current bench of the pushback. In summary, you don't have to push back the entire perimeter, you can work on a certain side.

Eric showed a photo of the **Pigeon** test pit which has accumulated some water in the bottom, although it will be several years before it would be at a warning level. The overburden pile is located just upslope. The company was anticipating some level of sloughing off the pile back into the test pit. Very little was seen, although it may be a slow process as the overburden was frozen when placed there. Mitigation measures are in place as any runoff from the pile goes down the slope back into the test pit and can be managed there. Pigeon is currently in the Selection Study phase (also known as feasibility).

The water license required [that an update to the Aquatic Effects Monitoring Program \(AEMP\) that incorporates the Pigeon Project be submitted to the WLWB](#) at least one year prior to construction. This was just filed with the WLWB, and the final Pigeon Stream Diversion (PSD) design drawings were delivered to DFO. Many fish habitat features are built into the channel, and both of these documents were reviewed together and considered complementary. There is a monitoring program specific to the PSD, the AEMP required under the water license, and the Surveillance Network Program (SNP) sampling under the water license. BHPB has clarified the various monitoring requirements in its request to the WLWB.

**Comment [D4]:** This wording may better reflect the WL requirement.

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Tim asked whether Pigeon pond will be fished out. Eric replied that the PSD will be constructed over two winters, possibly beginning in winter 2011-12 or the following year. As the pond is frozen to the bottom in winter and there are no fish there, no fish-out is necessary.

Eric showed the **updated Life of Mine Plan**. Pre-stripping at Misery extends to 2014, and Sable pit is no longer included as numbers are not economic at this time (Sable always had some uncertainty due to its distance from the process plant). The end of mine life is now projected to be 2018, vs. 2020 in previous plans. Lionel asked whether Sable would still be included when the water license is renewed in 2013. Eric replied it will remain in the water license since the mine plan changes annually based on the current price of fuel, diamond pricing, and other forecasts. At some point in the future Sable could become economically viable.

**2011 Permitting** includes the Misery waste rock storage area modification request, PSD channel compensation and monitoring plan, public engagement activities for water license renewal, alternatives assessment for managing processed kimberlite (PK), investigating compensation options for Desperation and Carrie Ponds, and winding down of PDC and Nero-Nema monitoring programs.

BHPB is targeting 16-18 months prior to the **water license** expiry date (August 2013) to submit the renewal application, and plans to start public engagement activities as early as summer 2011.

Keith described the **alternatives assessment underway for PK management**. BHPB is gathering engineering information on various options, including possible use of cell D in the Long Lake Containment Facility (LLCF). More technical and engineering information will be circulated over the next year, and there could be some workshops or other process to evaluate alternatives. The same consultants who were involved in the previous LLCF review (Andy Robertson, Don Haley, and Rescan team) are being utilized again. However, this will not be such an intense analysis of options but rather realigning the facility in light of the fact that cell B will be full in the next 18 months.

Tim asked for clarification on the status of extra-fine processed kimberlite (EFPK) in cell C, and whether it has settled or consolidated. Keith responded that a cone penetration testing crew from Fort McMurray was hired to get a profile and take samples in cell C, as they have dealt with similar problems with very clay-like materials in Alberta. They found a layer of consolidated material about 4 m below the water surface, rich in calcium and poor in sodium ions. Sample results are still being analyzed, but the data will set a baseline for the situation in August 2010, and future tests can be done to see if the layer is consolidating further or breaking up.

Bill noted that bivalent calcium was better for consolidation than sodium, and that a lot of the calcium was coming from minewater which is now going into Beartooth pit. He asked about previous methods of measuring EFPK using suitable density plumb bobs. Keith replied they have done this type of testing as well, but cone penetration gives better results. A continuous probe measures viscosity and density through all the layers to the bottom (bedrock), and you can examine the chemistry of pore water, free water, and other matters. This could be a major factor in keeping tailings out of cell D, as Cell D may not have the same water chemistry to drive consolidation. There is a retention period of about four years for water to travel through cell D, and therefore a large opportunity for solids to settle out. Eric added they are still collecting information, and there are still uncertainties regarding EFPK but it appears encouraging, at least in cell C.

**2011 Environmental Monitoring Programs and Reporting** includes revision of the 2008 Air Quality Monitoring Program (AQMP) report and finalizing snow core sampling methodology for the upcoming season. The final report for the October community/traditional knowledge workshop (as part of the review of diamond mine wildlife monitoring programs) should be issued by next week. Companies will respond individually to recommendations from this workshop as well as the June technical one, and BHPB is targeting February 15<sup>th</sup> to submit its wildlife research permit application to GNWT. The Panda Diversion Channel monitoring program is winding down, with outstanding questions and research concerns from DFO to be integrated into the 2011 program. Additional surveillance is also planned for construction activities related to the slope enhancement project. BHPB's response to comments on the Environmental Agreement Annual Report is about 75% complete. All other monitoring programs are proceeding as usual (SNP, AEMP, seepage monitoring).

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**Special Studies** include the Fay Bay Monitoring Program, with the 2010 report likely released in spring and examining how existing AEMP stations in the area will incorporate further monitoring. The LLCF nitrate reduction test is being evaluated in conjunction with the alternatives assessment, aiming to align the goals of space for PK storage and high quality water. BHPB will be developing a site-specific water quality objective for molybdenum. This will reduce uncertainty and result in an appropriate derivation.

**Management Plans** include updates to the Waste Rock and Ore Storage Management Plan (WROMP) and Wastewater and Processed Kimberlite Management Plan (WPKMP). BHPB is also reviewing its Quality Assurance/Quality Control (QA/QC) Plan with ALS Laboratories in Vancouver to ensure the sampling results are accurate and reproducible. The Wildlife Management Plan will also be revised in light of changes to the Wildlife Effects Monitoring Program.

Eric discussed the newly created position of **Advisor, Traditional Knowledge (TK)** now filled by Charles Klengenber. Charles is a long-time employee at Ekati and has experience with the environmental monitoring programs, so he will be able to suggest ways of improving community involvement. Tim said he hopes Charles will also be able to help communities develop ideas for TK projects on site, particularly related to closure planning. Keith added that Charles is very enthusiastic and also has many ideas for involving youth in environmental monitoring.

#### **IEMA PRESENTATION ON WORK PLANS AND BUDGETS**

Bill reviewed the Agency's current and proposed work plans and budgets for 2010-11 and 2011-12 (see PowerPoint presentation for details, distributed before the meeting and available from the Agency). For Board meetings, expenditures were based on the last approved work plan and budget. Since then, Directors decided to increase their honoraria rates by 10% as of April 1, 2011 and tied to the Consumer Price Index in following years, so the 2011-12 budget will require adjustments. No further funding will likely be requested to cover the over-expenditure of the Separate Fund, which was related to legal processes for the Interim Closure and Reclamation Plan (ICRP), as other core budget funding can be reallocated. Outside contracts include Bill Tonn's review of the 10-Year PDC Monitoring Program Report, and the Agency may commission a consultant before the end of the fiscal year to look at indicators of revegetation sustainability.

#### **DISCUSSION**

Lionel stated that the next step for INAC regarding the ICRP is resolving the securities issue (i.e. reconcile the approved ICRP and financial securities held under the water licence, Environmental Agreement and other instruments). John Brodie will again be contracted to complete this work. According to the water license, there is supposed to be an annual update by BHPB and an adjustment of securities every two years under the Environmental Agreement. However, this has been deferred since 2005 and so needs to happen as soon as possible. Eric said that BHPB is meeting with WLWB staff next week, and the priority will likely be that BHPB complete revisions to the ICRP as directed according to some work plan and schedule. Once the plan is approved, the securities issue can be dealt with. Kevin noted that Helen Butler (BHPB) estimated it will probably take until June to complete revisions and amendments, based on the directions from the WLWB.

Lionel said that INAC is pleased to see progress on the response to comments for the Environmental Agreement Annual Report, and commended both BHPB and IEMA on their excellent work. He felt that these bi-annual implementation meetings are very positive in developing a rapport between the parties and improving communications.

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Bill noted the Agency is pleased to be working with current company personnel, and even though the Agency and BHPB may not agree on everything, there is mutual respect. Eric agreed, and BHPB appreciates the opportunity to talk and work through issues. He added that they have the full support of BHPB's President that this is the approach the company should be taking.

Lionel provided an update on INAC staff positions. Francis Jackson is Acting Manager of Environment and Conservation until April 1<sup>st</sup>, although it is not clear what will happen in the new fiscal year. A number of vacancies need to be filled on the Environmental Management Framework (EMF) and Cumulative Impacts Monitoring Program (CIMP) programs. There is a significant amount of funding for these programs but human resources issues have prevented full hiring. Marc Lange will move down for 2011 to assist and expedite the process of funding allocation, as the call for proposals was recently distributed. Kitikmeot organizations are also eligible for this funding as long as the projects occur in the NWT. Teresa Joudrie remains Director of Environment and Conservation. Kate Hearn is Director of Minerals, Oil and Gas (permanent position). Malcolm Robb is currently at the Contaminants Directorate.

**DATE OF NEXT MEETING**

The date for the next meeting will be in May 2011. The Agency is not available the week of May 9<sup>th</sup>.

*Meeting concluded 11:30am.*