

Environmental Monitoring Advisory Board

Minutes – May 19-21, 2020

Virtual Meeting – via ZOOM and teleconference

Present:

Charlie Catholique, *Chair*

Jack Kaniak, *Vice-Chair*

Violet Camsell-Blondin, *Secretary Treasurer*

Laurie McGregor, *Alternate*

Dinah Elliott, *Director*

Gord Macdonald, *Director*

Sarah Gillis, *Director*

Lutsel K'e Dene First Nation

Kitikmeot Inuit Association

Tlicho Government

GNWT

Government of Canada

Diavik Diamond Mines

Yellowknives Dene First Nation

Absent:

Arnold Enge, *Director*

North Slave Metis Alliance

Staff:

John McCullum, *Executive Director*

(minutes)

Janyne Matthiessen, *Environmental Specialist*

(minutes)

Environmental Monitoring Advisory Board

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Guests:

Tom Bradbury, Lands (Day 2)

Abbie Stewart, MSES (Day 1)

Brian Kopach, MSES (Day 1)

John Virgl, Golder (Day 1)

Dan Coulton, Golder (Day 1)

Hamsha Pathmanathan, ENR (Day 1)

James Hodson, ENR (Day 1)

Lee-Ann Malley, ENR

Bill Slater, Slater Consulting (Day 3)

Randy Knapp, Knapp Consulting (Day 2 & 3)

Lorraine Seale, Lands (Day 2 & 3)

Bill Pain, Lands (Day 2 & 3)

Sean Sinclair, DDMI (Day 1 & 3)

Patty Ewaschuk, WLWB (Day 2 & 3)

Kassandra DeFrancis, WLWB (Day 2 & 3)

Meghan Schnurr, WLWB (Day 2 & 3)

John Brodie, Brodie Consulting (Day 3)

Longinus Ekwe, Tlicho Government

Ryan Miller, YKDFN

Myra Berrub, DDMI (Day 2 & 3)

Liam Case (Day 1)

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| <p style="text-align: center;">Tuesday May 19, 2020 Meeting at 9am by teleconference</p> |
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1. Call to Order

Meeting called to order at 9:35am

2. Approval of Agenda

Chair reviews agenda

3. Conflict of Interest

No conflicts declared

4. Minutes of previous meetings

Postponed to next meeting. Some members are unable to access wifi to review and approve February 2020 minutes.

Review of Action Items

- Noted to send request for update on policy on Aboriginal Involvement in Monitoring through Gord.

Noted that there are currently no outstanding recommendations

5. Financial Statement

The Secretary Treasurer reviews EMAB's Variance Report. Noted that this update does not include balance sheet or statement of profit and loss.

Discussion on Supporting Communities Budget

- Q: Why is almost none spent?
- A: EMAB budgets to go to every Aboriginal Party once a year. This year only 2 updates were done. EMAB staff were unable to find accommodations in Kugluktuk to attend the update scheduled there, so Jack presented it on his own. We had an NSMA update in March which was moved to a teleconference meeting because of Covid. We also look for direction from Board members/communities for when they want an update and no one else requested an update this year.
- Noted that it's better to do the TG update when we can use the winter road to access. Unsure if \$3000 would cover the cost of a TG update.
- Noted that this money can be rolled over to next year, and can be reallocated

Can Board members be reimbursed for additional costs for participating in zoom meetings?

- Send in receipts

How many years was the audit proposal for

- ED to check

Discussion on Technical Support Budget:

- Noted it's a bit over this year. EMAB set up a new computer backup system.

Noted that ED has done performance evaluation for ES and recommended a 4% salary increase which needs to be ratified by the Board.

Motion: to approve recommended 4% salary increase for Environmental Specialist following annual performance evaluation

Moved: Jack Kaniak

Seconded: Charlie Catholique

Carried

Noted that Julian Kanigan has resigned from the Personnel Committee so Board should appoint a new members. Proposal that Violet Camsell-Blondin be appointed.

Motion to appoint Violet Camsell-Blondin to EMAB Personnel Committee

Moved: Jack Kaniak

Second: Laurie McGregor

Carried

Action Item: ED to check on duration of audit proposal

6. WMP Updates

ES presents items from meeting kit

Noted correction in meeting item. Diavik rejected EMAB's request for a workshop to discuss the Program Description because they thought a broader forum would be more appropriate, not due to Covid-19 as reported in the meeting item. Diavik would like GNWT to host a regional workshop on the monitoring programs, as has been done in the past.

Noted that Diavik would appreciate a more specific recommendation about inclusion of TK in WMP reporting.

Also noted that it would be good to get any recommendations from EMAB on the WMP Program Description before end of June.

Sarah noted that Ryan Miller is online; he will be replacing Johanne Black as EMAB alternate for YKDFN once paperwork is done.

7. 2019 WMP

Sean Sinclair presents Diavik's 2019 WMP Report.

Discussion on habitat suitability within the mine site:

Q: This year it looks like there are areas inside the footprint are listed as undisturbed? Last year these areas were labelled disturbed. Gahcho kue made a similar change but in the opposite direction. They used to have areas onsite that were identified as undisturbed but they're all labelled as disturbed now. Why?

A: through monitoring we found that animals are still using those areas. The areas still provide some value to animals so their functionality is not lost.

- Noted that lower quality habitat could be assigned a lower habitat suitability value. Diavik did not do this and said there is no evidence that those areas are less suitable.
- Could there be changes in behavior due to stress that would lower the value of the habitat.

Noted that even including these areas, the disturbed area is below predicted levels.

Discussion on Caribou ZOI analyses

- Noted that there is no confidence limit on the figure showing preferred habitat vs. distance from mine

Q: in the past Diavik concluded there was no pattern with respect to ZOI

A: that was done using a simple linear regression, this is a different method.

Noted there appear to be more caribou further from the mine.

Noted that insect harassment didn't seem to affect caribou density.

Q: The model used by Diavik used distance and habitat quality. It's not clear how Diavik was able to discern between those 2 effects because there was no model that showed distance without habitat. Ideally, we would have a habitat & distance model to show both, and a habitat only model, and a distance only model, to compare the effects separately.

A: habitat selection theory predicts that if there was a ZOI we would see a change in the habitat use with distance.

Some fairly technical discussion between MSES and Golder consultants. Will arrange a separate call to try to sort this out.

- Noted that MSES would like to also see a distance-only model

Action item: plan a meeting with MSES and Diavik for further technical discussions

Discussion on Caribou Behaviour data:

Q: Behaviour scans are listed as onsite vs offsite. Is that the same as inside vs outside the ZOI?

A: depends what you mean by zone of influence, but the exact distances of the observations are recorded in the report

- Noted that offsite observations are incidental. They don't go offsite searching for caribou to monitor behaviorally.
- Diavik believes three of the offsite observations were beyond 15 km.

Discussion on deflection of caribou around Lac de Gras

Diavik notes that there is no correlation between activity level at the mine and deflection around lake.

Q: Is there a way to relate caribou migration paths to different type/location of disturbance on the site? What does TK say about caribou routes on East Island, and whether routes change when populations are high compared to low. Maybe at some point in development a disturbance cut off a migration route.

A: the footprint development was very rapid and hasn't really expanded in the E/W direction since the initial development.

- Diavik's view is that East Island is about 2-3 km wide, while Lac de Gras is about 60 km wide, so they don't think there is a mine effect on deflection

- Noted that there is no undisturbed land on the east side of East Island that caribou could use as a migration path. Pits extend into Lac de Gras.
 - this does not mean that area is impassible to caribou. It's frozen over and walkable for about 8 months of the year, and caribou can swim during open water.

Q: Is there any TK on caribou migration routes from around 1985, or when caribou population was high?

A: TK shows that they traveled directly over the island as well.

Q: Is there any TK info on changes to migration over time?

A: There is some TK on caribou movement through LDG. Not sure if any from when population was higher. Their route over the island was disturbed 20 years ago.

Grizzly Bear

No issues

Wolverine

Q: Where do you find wolverine on site?

A: They usually just trot through. Rarely there are issues with them. Relocated 2 in 2019 as they were getting curious and interacting with people rather than just passing through. One that was relocated was captured in the WTA and the other was just wandering around the site when we caught it. Cancelled second session of track surveys due to COVID travel restrictions.

Q: What sample size do you need to complete the wolverine analysis

A: will have to get back to you, need to do an analysis to determine samples needed.

Caribou Behaviour Sampling

Q: Are there any caribou samples collected in July or other time in the summer? Most samples are collected between January and April.

A: The caribou are only coming around the mine in the winter now. This is a change as they used to be around more during the summer. Could be due to herd decline and range contraction.

Q: Power analysis says 55 samples are needed in each distance range. Which distance ranges are lacking caribou behaviour data?

A: need data for 5-15km range. Most of the observations we have currently are between 0.5-5km. This also includes the Ekati data.

Q: would there be any value in doing an analysis on caribou behaviour for the ranges of data that we do have? Perhaps data from post-calving season would provide value on its own.

A: Answer debated, but probably no.

Q: Can we then assume that we will never see another behaviour analysis?

A: Diavik think's this is a fair conclusion.

5 minute break

Item 7 (WMP presentations) Continued

MSES presents their review of Diavik's 2019 WMP report.

- Report is generally good from MSES perspective. Some questions about ZOI analysis that will be dealt with through a separate call.

Discussion on Caribou Distribution/Migration

- Further data and analyses are needed to understand why the original predictions were incorrect.
- Cancelling the monitoring doesn't help verify original predictions
- Original intent of deflection monitoring was to assess effect on caribou energetics and the least-cost path
- Modelling showed a very small effect on energetics, using conservative assumptions
 - Noted that energetic analysis requires killing caribou
 - Could use model to make estimates based on terrain ruggedness, landscape changes, etc.
 - Clarified that no one wants to perform analyses that require killing caribou.
 - Noted that a whole new model would be needed to do a least-cost path analysis
- Noted that Ekati did an energetics analysis for the Ekati-Jay project
 - Found a small effect (0.3% decrease) on fecundity.
 - Noted that MVEIRB rejected conclusions of this analysis and stated that any change to energetics is significant considering the state of the herd.
 - Also noted that MVEIRB did not reject the analysis, just the conclusion of significance.
- It hasn't been convincingly argued that changes to deflection are due to change in herd size and not the mine
 - Diavik: Post 2012 is when caribou started deviating from predicted paths more often. Another possible conclusion is that this was also when mining switched from primarily above ground to primarily below, which could have an effect on the deflections.
 - Noted that caribou only followed predictions once between 2011 and 2018.
 - Noted that Diavik is drawing qualitative conclusions and uses terms like 'probably, likely, and seems to'. We need quantitative answers. Diavik wants to discontinue monitoring because there are no strong conclusions, but there are no quantifiable conclusions.
- Noted that the EA says Diavik will monitor and results will continue to be shown. It seems like Diavik is trying to reduce monitoring without reasonable rationale or agreements among Parties to the EA. Diavik agreed to do the monitoring when they signed the agreement. Any changes need to be approved by all Parties to the agreement. Changes to monitoring aspects covered under the EA should not be unilaterally decided by Diavik.
 - Diavik says it does not see an effect so there is no need to monitor
 - Also noted that the monitoring may not need to be extensive, but something needs to be done to honour that part of the EA and verify predictions.
 - Diavik notes that it does all kinds of analysis that goes beyond the program without acquiring permission from Parties.
- Confirm that MSES / Golder call will take place before final comments are submitted

Q: when does Diavik plan to submit the WMP Program Description?

A: end of June

Action item: Staff to draft recommendations regarding TK monitoring reporting to include in the program description.

Follow-up:

- 1) Phone call between EMAB/MSES and Diavik/Golder**
- 2) Recommendations from staff on inclusion of TK in WMP reports**
- 3) Staff/MSES draft recommendations on the program description**
- 4) Board reviews and approves by email motion or conference call**

Q: Does Board have any suggestions for improving the teleconference meetings?

A: It would be good for Board members to have the presentations so they can follow along

Meeting adjourned for the day (1:05pm)

Wednesday May 20, 2020
Meeting at 9am by teleconference

Chair opened the meeting at 9:15 am

8. Security Deposit

Patty, Kassandra and Meghan from the WLWB joined the meeting
LeeAnn, Lorraine and Bill Pain from GNWT joined the meeting
Randy Knapp joined the meeting

WLWB Role in Setting Security Deposit

Patty Ewaschuk from the WLWB presents on securities under the Water Licence

- Security must cover full cost of closure
- GNWT plays a large role in setting security, both as a landowner and through its legislative mandate.
- WLWB sets security through the Water Licence under the authority of the Waters Act, MVRMA
- Additional security via the Environmental Agreement is not under the authority of WLWB.
- Closure planning is linked to security; closure criteria are important and meeting them guides the amount of security Diavik can get back.
- Security can be adjusted for many different reasons and involves a public review
 - Typically comments are from the landowner and the company
- WLWB Expectations for setting and adjusting security
 - DDMI engages with GNWT to try to reach consensus on amount of security and inform WLWB
 - If no consensus GNWT and DDMI each submit an estimate
 - Public review takes place
 - WLWB decides on amount either through a new schedule or a new licence, depending on the process taking place.

Q: Is EMAB continuation after the mine closes considered as part of security?

A: this is covered under the securities held under the EA. It is also up to the minister if EMAB would continue through closure.

- Noted that Diavik had tried to include EMAB in one of their RECLAIM estimates but the WLWB rejected that as it does not fall under WLWB authority.
- Noted that GNWT also holds security under Diavik's land leases

Q: who authorizes the use of security to pay for clean up if it got to that point? WLWB or GNWT?

A: Generally GNWT, but it may depend on which security deposit.

Q: do securities expire and what is the renewal process?

A: the letters of credit automatically renew every year

Environmental Agreement Security

Lee Ann Malley presents on Environmental Agreement securities from GNWT

- Noted that EA Security should not duplicate WL Security
- Review of detailed amounts in Additional Security Deposit (ASD)
 - Note that amount for use of TK in monitoring is set at zero. This is because Diavik has said this will be included in the monitoring programs described in the ICRP
- May re-evaluate ASD after revised ICRP is approved. Previous re-evaluation was in 2015.
- Noted that ASD includes \$3 Million for EMAB; there is an additional \$3Million for EMAB in the EA Security Deposit

Discussion about incorporating TK into reclamation

- Noted that 17.56 million will not be enough to include TK in monitoring: gathering information from elders is costly
- GNWT sees TK as very important. GNWT has listed TK for \$0 under the ASD because Diavik has said TK was covered under their main security deposit.
- GNWT recognizes the need to make sure TK monitoring is covered somewhere.
- When GNWT understands Diavik's security estimate in greater detail they may be able to have a more productive discussion about where TK should be covered.
- Diavik's new RECLAIM estimate only includes scientific monitoring and does not include TK. They recognize the gap.
- Noted that currently approved estimate includes \$120K per year for 10 years for TK monitoring. This was removed in the proposed estimate because Diavik did not have a scope for it.
- Note that it may be useful for aboriginal groups to comment on ASD and WL security deposit.
 - They can comment on the WL security during review of ICRP or the WL amendment.
- Diavik needs to get input from Aboriginal Organizations on how much TK monitoring will cost.
 - GNWT and Diavik should seek input from Aboriginal groups.
 - Opportunities for input via ICRP review and review of ASD
- EMAB needs to continue during closure to make sure all this gets done

Action Item: EMAB to consider recommending that GNWT and Diavik seek input from Aboriginal Groups on TK monitoring.

Diavik Security Estimate

Gord presents their security estimates

- Several key changes since previous estimate
 - Updates to some unit rates and quantities
 - Monitoring expanded up to 20 years
 - Two years of interim care and maintenance
 - Submitting a reclamation completion report (RCR) for NCRP and requesting a reduction of security
- Diavik sought consensus with GNWT; ended up with 4 areas of disagreement
 - Contingencies for NCRP and demolition
 - PKC cover thickness
 - Demolition cost
 - Duration of Interim Care & Maintenance
- Discussing hold-back approach and inflation with GNWT as well
- Noted ASD amount is \$14.5K, not \$17.5K

Noted elders don't want anything buried at site.

- This is the plan approved by WLWB

Q: do you have funds for indigenous groups to participate in TK as part of the ICRP?

A: only for the TK panel, we can talk more about the ICRP during item 12.

Q: Are the security estimates all based on ICRP 4.1?

A: Yes. The new security estimate is based on 4.1. The reclaim estimates should reflect the approved closure plans.

Q: Changes to ICRP 4.1. would have implications for the security deposit, if there were changes to the ICRP would there be another round of finalizing the estimate?

A: yes

- Noted that this time it's a bit of a change from the past. This time the ICRP is not approved prior to making the estimates. A bit more difficult to make estimates on an unapproved plan.
- WLWB noted it's a new process/requirement that the security estimate be submitted with ICRP 4.1 as opposed to the old process of submitting it after.

5 Minute break

Item 8 continued

GNWT Security Estimate

Bill Pain presents GNWT's Security estimate.

- Noted that ICRP Ver 4.1 was not completed when GNWT and Diavik were engaging on security estimates, so approach is a bit piecemeal.
- Agrees that a way of dealing with inflation is still being worked out with Diavik
- Holdbacks must reflect uncertainty related to each closure activity

Q: at the last EMAB meeting some things came up about holdbacks with respect to long-term maintenance. How will long-term monitoring be paid for and can you talk about your views on how long-term monitoring, including TK, will be covered on site?

A: No. Through the process of the ICRP people can engage about what kind of monitoring they want to see for long-term monitoring. People should discuss what they want in terms of TK moving forward.

- Noted that ICRP 4.1. is out for review so now is the time to engage on this

Noted that Bill Slater and Randy Knapp have both provided reviews of the security estimates.

- Generally, they were concerned with a lack of closure planning in many areas, including SCRP, TK monitoring, moving the slimes, water treatment costs.
- Neither are online now, so will discuss more during ICRP item tomorrow.

Bill Pain, Patty, Meghan, and Cassandra sign off

9. Inspectors Report

Tom Bradbury joined the meeting

Tom Bradbury presents inspectors report

- Inspections still required during pandemic
- Virtual inspections

Q: How comfortable are you with the remote inspections?

A: A big thing so far is that communication is more frequent and has actually gotten better. We've been in contact every day. We make sure to be very specific about the information we request. Diavik has supplied everything we needed and gets requests done in a reasonable amount of time. It's never as good as being on the ground, but it's been pretty good, especially considering all the uncertainty.

Q: How often do you go to site? Do you ever go when they are trucking supplies?

A: typically once per month unless there is an emergency, but not during the pandemic. We did a trip up the winter road this year. They will also go to site in the case of an emergency such as a spill. Inspector hopes to be at site during freshet this year. If they go to site during COVID restrictions they will charter their own flight and set things up so there is minimal contact with Diavik staff at site.

10. Environmental Agreement Update

Lee Ann Malley presents on the status of the EA amendment

EA is still with Canada's lawyers. Their response is expected soon, then the addendum will be circulated to Parties

Q: is there any type of timeline on the amendment?

A: Since it is not in the hands of GNWT they can't make any commitments. They will likely give Parties 45 days to review the addendum but may be open to extension if Parties need more time.

GNWT response to EMAB's letter regarding the EA Amendment is in the final approval stage.

11. Water Quality Cultural Use Criteria: Pit Lake Reconnections

Myra Berrub joined the meeting

Gord presents Diavik's presentation on Cultural Criteria for the PK to Pits Proposal

- Asked TK Panel to review this; received 16 recommendations
- Want to compare how fish respond to water inside and outside pit
- Panel would then sample the water
- Once satisfied the Panel would sign off on reconnection
- Diavik is seeking approval of the TK Panel Criteria
 - Review with communities
 - Receive alternative/additional suggestions
 - Bring results to EMAB to consolidate
 - Diavik responds to communities

Q: How are you going to give this information to communities? Are you just sending it to them and saying here are your proposed criteria?

A: we've been reaching out to communities to try to organize online meetings. Predating Covid we had hoped to provide more detailed reviews for communities. At a minimum we want to present this to regulatory staff, but ideally we want something with a broader audience participating online or over the phone.

TG member recommended bringing TK Panel elders to Behchoko as well as elders who participated in the PK to Pits Environmental Assessment, and requested that Diavik cover the costs. Diavik expressed concern that this might put elders at risk considering COVID.

Q: when is the deadline for comment on this?

A: none at this time. Diavik would like to start by discussing this with TG staff.

TG member suggested elders could come together in June, depending on COVID situation Diavik is supportive in principle, subject to concerns about COVID, and risk to elders.

Diavik asks if EMAB agrees with idea of Diavik bringing the results back to EMAB for review. Diavik will continue to try to engage with communities and will make sure EMAB member is involved.

Meeting adjourned for the day at 12:05pm

Thursday May 21, 2020
Meeting at 9am by teleconference

Chair opened the meeting at 9:15am

Chair does not have internet; meeting to proceed.

12. Review of ICRP Ver 4.1

Gord Macdonald presents ICRP Ver 4.1 (PPT in file)

Updated version was prepared in response to WLWB-required changes following Ver 4.0.

Water Management

- Breach collection ponds and re-establish previous drainages
- Contingency – don't breach ponds and do water treatment for metals using the existing North Inlet Water Treatment Plant (would require upgrading)
- Uncertainty - need approval of regulatory mixing zone – Diavik has made geochemical predictions for runoff from each drainage

PKC

- Least developed closure component
- Evaluating options for wet vs. dry cover
- Spillway might stay in same location or move to southern side of PKC
- Contingency – water treatment
- Uncertainty - need to decrease seepage to maintain pond
 - May not be able to place cover next to pond; slimes won't support weight of cover

WRSA's

- Map of mine footprint showing different cover types: A21, Type 1, undisturbed
- SCRP is not geochemically active, so leave as is; just construct a ramp for wildlife
- Contingency – add additional material to NCRP cover to keep pile frozen
 - Water treatment
- Uncertainty – performance of cover over the long-term

North Inlet

- Bioremediation – approximately 10 years
- Break dam and fill with rock; allow water to move in and out, but keep fish out
- Contingency – allow fish passage if conditions improve so it's safe
- Uncertainly – length of time to remediate
 - For water treatment contingencies, would need NI for holding

Pit Lakes

- Prefer off-site enhancement that benefits communities more
- Contingency – construct as previously proposed
- Uncertainties – decision on PK to pits proposal
 - DFO acceptance of preferred alternative
 - Transport Canada permit requires dike breaching

Underground

- Leave non-hazardous material that doesn't have salvage value
- Contingency – place material in landfill
- Uncertainty – what is salvageable

Revegetation

- Active revegetation as shown on map; seed with native grasses
 - Roads, laydown areas
- Contingency – re-seed if required

- Uncertainty – where to re-vegetate

Contaminated Soil

- Landfarm to best effort – 2 years, then dispose in landfill
- Target – Canada Wide Standard for PHC Agriculture
- Minimum – Canada Wide Standard for PHC Management Limit
- Contingency – off-site disposal
- Uncertainty – general opposition to on-site disposal

Closure Criteria

- Explicit criteria instead of “built as designed”
- Water quality criteria have been modelled
- Monitoring extended to post-closure
- Acknowledge TK monitoring
- Uncertainty – regulatory approval of mixing zones; cost/practicality of TK-based monitoring; aesthetic/landscape criteria

Security

- Discussed previous day

Next Steps

- Diavik requesting EMAB review how EMAB issues were addressed
 - Follow up with Diavik
 - Aim to reduce comments on ORS
 - Diavik would like to respond directly to EMAB before comment deadline (Sept 15)

Discussion

- Wildlife monitoring seems limited to a 2-week intensive session each year
- Security estimate for monitoring seems to be a lump sum; how to assess?
- Diavik noted there is a detailed breakdown for each monitoring component by year (Appendix VII, sub-Appendix A)
 - GNWT has reviewed and accepted the estimates for monitoring
- Noted that WLWB acknowledged that monitoring plans will become more detailed as closure gets closer
- Noted that it would be helpful to have links to appendices, and sub-appendices
 - Links break when document is broken up for circulation
- Does estimate include all of the NCRP? TK monitoring is not shown, but was included in previous versions
 - Suggested GNWT and Diavik discuss offline
- How does Diavik propose to do TK monitoring?
 - Plan is to advance this through the TK Panel, then verify with communities
 - Would like EMAB to help consolidate community input
- How to consult with communities under COVID restrictions?
 - Timing has not been set
- Will community Development Corps have a chance to bid on closure activities?
 - Yes, for some aspects that happen after Operations cease
 - Likely for demolition (RFP's in early 2021) and monitoring after 2030

Randy Knapp presented his review

- Credible closure plan; far beyond any closure plan he has reviewed
- Concerns
 - PKC – pond may not be maintained, exposing slimes
 - Diavik should be looking at moving slimes to pits
 - Concerned there won't be a final closure plan for PKC by 2022
 - WRSA
 - SCRP
 - No real closure plan
 - Diavik should estimate amount of material and prepare an initial plan based on that
 - NCRP
 - Modelling shows entire cover thawing by 100 years
 - Need to model beyond 100 years
 - Need to assess what happens if top of pile thaws
 - Seepage quality
 - Low moisture in many samples of cover; model effects of this
 - Long-term TK Monitoring
 - Needs to be developed
 - Contingency
 - Should include moving slimes to pit in contingency
 - Revegetation
 - Map of potential revegetation covers roughly 18% of the site
 - RECLAIM estimate is based on revegetation about 11% of site
 - Specific revegetation areas need to be identified

Discussion

- Will grass grow on waste rock pile?
 - Very sparsely; requires moisture and nutrients; need fine-grained material
- Will caribou go on the waste rock pile?
 - Caribou paths might revegetate
- Will there be runoff from the pile?
 - Yes – in spring or during heavy rainfall. Mostly seepage though.
 - Diavik notes that they don't see visible runoff from the pile
- How will fine grain paths stay in place with large rocks underneath? Freeze-thaw would lead to cracks and instability
 - Test piles were flattened and formed a smooth surface that has held up over time
 - Re-sloping and covering changes the surface
- Is surface soft for caribou to walk on?
 - It's rock, but is suitable for walking on
- Could surface wash off?
 - If erosion gullies form Diavik would have to fix them. They haven't seen anything like that so far.
- There is PAG in the pile. What will happen in spring? How will seepage and runoff be monitored
 - Diavik samples the collection ponds and has never seen much runoff and no measurable stream flow

- Diavik monitors the collection ponds but they have multiple inputs, not just NCRP
- They presume there is some sub-surface seepage
- Diavik notes it would like to have the opportunity to engage with EMAB on Randy Knapp's comments.

Bill Slater presented his review

- Ver 4.1 is a definite improvement over Ver 4.0
- Closure Criteria
 - Remove references to the option of a risk assessment
 - Revegetation
 - Landscape/aesthetic criteria will be hard to achieve
 - No revegetation on NCRP, SCRCP or PKC
 - Diavik is not following the recommendations for revegetation that its consultant provided due to cost
 - PKC
 - Frozen toes of dams – modelling shows PKC thawing at surface within 25 years
 - Might require pumping in the dams (interception wells)
 - North Inlet
 - Should maintain the contingency of allowing fish passage beyond period of active closure
 - Waste Rock Piles
 - Comments are similar to Randy Knapp
 - Contaminated Soils
 - Would like to see report and ToR for Diavik's evaluation supporting onsite burial
 - TK Monitoring
 - Need broader involvement beyond TK Panel
 - Water Quality Modelling
 - Much improved; predictions are more reasonable
 - Need to know size of proposed mixing zones
 - Closure Costs
 - Water treatment contingency is 30% of total closure costs; should be included somehow
 - Post-Closure Monitoring
 - Much more detail than previous ICRP's

Gord Macdonald made some clarifications:

- Contingency is built into RECLAIM as a single number, not broken out
- WLWB directed that the water treatment costs not be included in RECLAIM
- WLWB has already decided it is OK to bury waste onsite
- New document describes size of mixing zones (following conformity check by WLWB)

Patty from WLWB clarifies the basis for the WLWB decision regarding burial of inert waste, including evaluation report; described in decision on ICRP Progress Report, possible 2012.

- Was that the expert opinion referenced in the ICRP Ver 4.1?

- Yes

Discussion

- How long would natural revegetation take?
 - Diavik notes it depends on the degree of maturity
 - Diavik's report by University of Alberta says it will take 100's to 1000's of years for vegetation to recover naturally
- What are the native grasses used for revegetation and where are they from?
 - They are commercially available; check in ICRP for details
- How much seepage is Diavik expecting it might have to treat under the contingency. Is it worth keeping the entire North Inlet closed off?
 - It would be done in batches. About 2Million cu. M.
- How to tell where TK Panel recommendations have been included in ICRP?
 - This is described in the document

Diavik (Gord) asked how the Board feels about consultation with EMAB over ICRP Ver 4.1 to try to resolve issues – how each previous comment was addressed

- Makes sense to work through issues one by one
- WLWB notes that they encourage those kinds of discussions
- Agreed

Proposed Next Steps for EMAB

- Request consultants update reviews to include post-conformity check information
- EMAB staff will look at additional comments, including TK recommendations
- Have a meeting/engagement between EMAB and DDMI before submitting EMAB recommendations on ICRP 4.1. to work through unresolved issues 1 by 1

Diavik noted they only want to go through the comments that the WLWB considered to be outstanding

- Diavik addresses comments from Randy and Bill
- EMAB to send unaddressed comments to Diavik

Action Item: staff to propose a process for next steps for ICRP review and moving forward

Five-minute Break 11:25

13. EAQMP Update

ES presents item from kit

Yellow haze sampling

- Diavik denies being aware of any yellow haze and requests pictures or any information about specific observations
- Noted that it might be necessary to go a mile or so away from the site to observe yellow haze
- It happens during extreme cold

Action Item: get picture of yellow haze from Charlie and provide additional information to Diavik.

2017 EAQMP Responses

- Commitments for 2018 appear to have been met
- Staff will check on commitments for 2019
- Some items to be addressed at EAQMP Workshop; no need for follow-up until then
- Q: when is workshop planned for?
 - Possibly fall time; Workshop delayed until COVID restrictions are relaxed
- Noted that Diavik's Special Dust Study was submitted with the 2019 AEMP Report and is in the hands of the WLWB

EAQMMP Re-evaluation

- Discussion on monitoring A21. Diavik acknowledges the 2012 dispersion model did not include the A21 pit. Noted the written response to the recommendation appears to say the A21 area was included in the 2012 model.
- Q: Did Diavik collect TSP data in 2019?
 - no
- Q: what TSP data will be reported in the EAAR as required to verify EA prediction?
- Diavik presents view that TSP is only relevant once it falls out as dust on the land or in the lake, and Diavik does report on dust. Noted that Diavik also reports on dust on lichen and vegetation
- Noted that the decision to remove TSP was made unilaterally by Diavik despite recommendations from EMAB to continue until all Parties agreed to the change. Parties to the EA were not involved in this decision. Diavik has never agreed with TSP monitoring, and has never dedicated sufficient resources to make it successful – Ekati and Gahcho Kue both carry out successful TSP monitoring.
- Noted that dust monitoring does not replace TSP monitoring. Monitoring TSP relates back to CSR predictions.
- Suggested that EMAB should write to Minister under EA section 7.5 to say the EAQMMP program is not adequate
 - EMAB should seek resolution before going to the Minister
 - EMAB could re-iterate its recommendation to include TSP in the EAQMP
 - EMAB has tried to resolve this; time to go to Minister
- Noted that TG brought an elder to the mine and he expressed concerns about the dust blowing around and affecting wildlife and fish. The whole ecosystem is important. Other mines are able to carry out successful ongoing TSP monitoring. We are not receiving the proper information.
- Discussion on approach: should EMAB write to Minister or request a response from Diavik?
- Diavik states that unless there is new information its response will be the same, so no point in requesting a response.

Action Item: Draft letter to Minister stating EAQMP is inadequate for Board approval.

14. TK Panel Update

Diavik announces that it will cancel the 2020 TK Panel Session due to COVID

Discussion

- If things change could the meeting still go ahead in fall?

- Elders are at high risk and Diavik minesite is a risky location due to large number of fly-in workers
- Could Panel meet in Yellowknife?
 - Diavik tried this but it wasn't very successful
- How will Elders comment on the ICRP?
 - Diavik would like Elders' comments on ICRP, but not through a meeting of the TK Panel
- Status of project to review TK Panel Recommendations with communities?
 - Also on hold due to COVID

15. Round Table

Charlie – everything in Lutselk'e is shut down due to COVID. Not much going on.

Violet – same in Behchoko. Offices are closed; teleconferences as needed. The emphasis is on being safe.

Laurie – noted that GNWT is looking for a replacement for Julian by advertising. Request to use EMAB logo.

No objections.

Gord – still trying to engage by virtual means. Continuing discussions with TG on PA agreements

Charlie – with relaxed COVID restrictions, can we do a regular in-person meeting?

Noted that we should be safe.

Gord – tentative meeting dates for June 16-17. Would like to set these as placeholders for an ICRP discussion

June 16-17 seems to work for most members

Dinah noted that Canada will likely look to appoint a member of the public as Canada's member on the Board.

Sean – not available morning of June 17.

Gord – noted lack of access to presentations as an obstacle for some members at the meeting. People should download them from the dropbox.

ED will try to send presentations to Jack and Charlie before meetings.

Meeting adjourned at 12:15 pm.