

Environmental Monitoring Advisory Board

FINAL Minutes – May 23-24, 2017

EMAB Boardroom, Yellowknife, NT

9:00 am - 5:00 pm May 23

Present:

Napoleon Mackenzie, *Chair*

Charlie Catholique, *Vice-Chair*

Julian Kanigan, *Secretary-Treasurer*

Jack Kaniak, *Director*

Sean Richardson (both days; by phone Day 1),
Director

Gord Macdonald (by phone), *Director*

Arnold Enge, *Director*

Yellowknives Dene First Nation

Lutsel k'e Dene First Nation

Government of the Northwest Territories

Kitikmeot Inuit Association

Tlicho Government

Diavik Diamond Mines

North Slave Metis Alliance

Staff:

John McCullum, *Executive Director*
(also minutes)

Allison Rodvang, *Environmental Specialist*
(also minutes)

Environmental Monitoring Advisory Board

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Guests:

Paul Green, GNWT-Waters

Scott Stewart, ENR-Lands, North Slave Regional Superintendent (Day 1 only)

Marty Sanderson, ENR-Lands (Day 1 only)

Tracy Covey, GNWT Lands (both days – selected items)

Ryan Fequet, WLWB (Day 1 only)

Sarah Elsasser (Day 1 only)

Megan Cooley, NSC (by phone, Day 1 only)

Meagan Tobin, ECCC (by phone, Day 1 only)

Zsolt Kovats, Golder (by phone, Day 1 only)

Rainie Sharpe, Golder (by phone, Day 1 only)

Bill Slater, SEC (by phone, Day 2 only)

Randy Knapp (by phone, Day 2 only)

Jennifer Kirk, Arcadis (by phone, Day 2 only)

Anneli Jokela, WLWB (by phone)

Patty Ewaschuk, WLWB (by phone, Day 2 only)

Joanne Barnaby, TK Panel Facilitator (Day 2 only)

Bobby Algona, TK Panel Member (Day 2 only)

Kathleen Algona (Day 2 only)

Madelaine Drybones, TK Panel Member (Day 2 only)

Bertha Catholique, Chipewyan Interpreter (Day 2 only)

Natasha Thorpe, TK Panel Facilitator (by phone, Day 2 only)

Philippe de Pizzo, SLEMA (Day 2 only)

Zhong Liu, SLEMA (Day 2 only)

1) Call to Order

Meeting called to order at 9:10 am.

Minute of silence

2) Approval of Agenda

The Chair opened the floor for amendments to the agenda.

Motion: *To approve the May 14 & 15 agenda as presented*

Moved: Jack Kaniak

Seconded: Julian Kanigan

Motion carried.

3) Conflict of Interest

No conflicts were declared.

4) Approval of Minutes

Motion: *To approve March 14 & 15 Meeting Minutes as presented*

Moved: Jack Kaniak

Second: Arnold Enge

Motion carried.

ED Actions Follow-up

ED presented item from kit.

Action Item: request letter from ENR Minister to Inspector from Monica Wendt

Discussion

- ENR-Wildlife won't have comments on the 2016 Diavik WMP report by the next meeting. They would like to present them later – possibly at the September meeting
- Link website to Facebook so community members are able to comment on reports
- Email is fine for Board member appointment as long as address is from specified organization, not a personal account. Print out email for records.
- Behchoko ED would like EMAB to hold a meeting in the community.
- Staff will circulate draft Annual Report before June meeting.

5) Financial Report

ED presented item from kit.

Financial statement to March 31, 2017 presented

Financial statement to May 8, 2017 presented

Q: Budget for computer skills training for Board?

A: \$500 allocated for board training and equipment

Q: Can we buy travel insurance offered by the bank instead of insurance agent?

A: ED will check, it may be more expensive to buy trip by trip instead of on annual basis.

Q: Should we approve these tomorrow during Closure item?

A: Approving standing offer is only approving rate, not actually approving them to do work

Motion: *To approve standing offer from Jennifer Kirk and Barbara Hard at Arcadis*

Moved: Arnold Enge

Seconded: Jack Kaniak

Motion carried.

Motion: *To approve standing offer from Randy Knapp*

Moved: Arnold Enge

Seconded: Sean Richardson

Motion carried.

Motion: *To approve standing offer from Bill Slater*

Moved: Arnold Enge

Seconded: Charlie Catholique

Motion carried.

Break 15 minutes.

6) MMER Amendment Review

ES presented item from kit. Noted that comments on amendments are due July 12, and that EMAB will attend June meeting hosted by ECCC

Discussion

Diavik representative noted:

- Ideal situation would have any diamond mine with an equivalent program grandfathered into the MMER
- Biggest regulatory uncertainty is if DFO had authorization to allow Diavik to “destroy life” by draining small lakes that the PKC was built over – normally this would go into a Schedule 2
- Diavik’s discharge limits are much lower than limits under EEM

Q: What is Diavik’s approach to the amendments; do they have views on the role EMAB could play?

A: Diavik is working with De Beers and DDEC on an NWT focused approach to raise awareness and support from LWBs, territorial government and agencies. The amendments shouldn’t come at a cost to programs already in place, and specifically no additional cost to Diavik. Regulatory oversight is part of EMAB’s mandate; EMAB could comment at a high level. There is likely no need for EMAB to review the amendments line by line.

Q: AEMP meets or exceeds the EEM under MMER?

A: Yes, although there are some differences in the programs. Different fish species are used for toxicity testing (EEM chose the fish species for standardization while Diavik chose their fish species for site specific reasons). ECCC would like to keep testing standardized to allow comparison among mines. EEM requires sampling 4x/yr while AEMP requires 2x/yr; this is based on seasonal differences. When Diavik’s AEMP shows effects they have to investigate cause and carry out mitigative actions ie. Response plans; EEM only requires proponents to investigate the cause of effect.

Comment: EMAB doesn’t need to take a position on MMER vs. AEMP.

Q: Will ECCC indicate whether they will grandfather Diavik’s AEMP at June meeting?

A: Not sure if ECCC can do this, they might just be able to clarify what the amendment is. Diavik will make their case and ask what the best submission form is. Right now the amendment identifies where Diavik falls in the various stages of development and implementation of EEM’s.

Q: At what point will we know if Diavik has been grandfathered in?

A: Gazette 2 in the fall once comments are received from Gazette 1.

Action Item: staff to review amendment on grandfathering, attend ECCC meeting in June and draft letter with EMAB comments. Can approve by email or conference call.

7) DFO Mandate Discussion

ED presented item from kit.

Discussion

Noted that currently DFO only comments on habitat degradation.

Q: Where does the Board stand on this issue?

A: Perhaps EMAB can send a letter to the WLWB to ask how this review gap is being filled.

Action Item: ED will put together three letters (WLWB, ECCC and DFO) based on discussion and will review letters at upcoming meeting.

8) Inspector's Report

Tracy Covey from GNWT-Lands presented.

Q: Why is water against a dam concerning?

A: Erosion so potential effect on stability. Diavik says the ponding is runoff so not a concern, and won't remove water unless the Engineer requires them to. Otherwise it will be displaced over time as coarse PK is deposited there. Dry tailings are optimal. Diavik does not have approval to have water there.

Possible concern that Pond 12 is identified as storage for excess water from jet grouting, but has been used for snow dump, so may not be available.

Q: Where might mis-classified PAG rock from A154 adit have been used?

A: Berm into PKC, laydown of A21, extension of road, underground backfill

Diavik will provide Inspector with detailed map of volumes and comprehensive list of where PAG rock might be by July 2. Inspector wants to know if this was a reasonable error.

Q: How was it discovered that Type III rock had been misclassified?

A: Misclassified as Type I instead of Type III right off the bat, and mine planner only just recognized this as a misclassification and that it was being used across the site.

LUNCH 12:00-1:00

9) 2016 AEMP Report Review

Meagan Tobin (ECCC-phone), Megan Cooley (NSC-phone), Zsolt Kovats (Golder-phone), Rainie Sharpe (Golder-phone), Anneli Jokela (WLWB-phone), Tracy Covey (GNWT-Lands), Paul Green (GNWT-Waters)

Gord Macdonald presented 2016 AEMP Report. Noted that 2016 was a comprehensive year so all sites were sampled.

Highlights:

- Higher dust levels than 2015
- All water samples below EQC's; effluent largely non-toxic, 9 new SOI's
 - Action Levels reached; 15 – level 1; 7 – level 2
 - A21 construction detected at MF-3
- Sediment similar to previous years
- Eutrophication – nutrient enrichment is occurring; chlorophyll *a* is highest close to mine
 - Variation from baseline (portion of LdG): chlorophyll *a* – 43.7%; phytoplankton – 13.7%; zooplankton <1%

- Plankton
 - Phytoplankton – higher in NF and above normal range – Action Level 2
 - Higher proportion of diatoms in NF
 - Zooplankton – NF biomass lower than FF; composition different between NF & FF
 - Action Level 2
- Benthics – showing response to nutrient enrichment; densities significantly above normal range in NF and some types also in MF
 - Mostly matched eutrophication indicators; Pisidiidae reached Action Level 1 for toxicological effect and benthic evenness reached Action Level 2 for toxicological effect
- Fish (Slimy Sculpin) – healthy; similar in NF and MF compared to FF; more parasites in NF
- Weight of Evidence – stronger nutrient enrichment response than toxicological. There are significant differences from reference but low severity of effect on ecological integrity of Lac de Gras – there is no lake level change in trophic status
- Action Levels – Table 1 shows exceedances – this information could be tracked over time

Q: Are the fish results compared to reference lakes?

A: Diavik does not have reference lakes. Results are compared to reference conditions and FF areas.

Q: Are these results from the fish captured last year during EMAB site visit?

A: Yes

Q: Has trophic status changed?

A: Diavik doesn't necessarily measure trophic status as it is a broad definition whereas chlorophyll *a* is more granular.

Q: What was done with the core samples?

A: Put back in lake.

Q: Why would zooplankton biomass be lower in NF than FF?

A: Less biomass is a greater warning sign. In 2016 it was significantly lower but remains within normal range. Food composition has changed, and zooplankton may be experiencing a shift in food available to them.

Q: How does Diavik determine age of sculpin?

A: Plot out all of fish at the same site, separate based on visualisation of length, gonads and weight, and group them by age after that.

Q: What is the error?

A: Good question. There is reasonably good confidence if you have a good distribution.

Q: Who is doing the plots?

A: People with 25-30 years of experience. If students were involved it would be help collect samples.

Q: Why is Diavik seeing a toxicological response in fish before benthics/plankton?

A: Lower trophic communities respond to changes first, and then you might see it in fish. What Diavik is seeing is unexpected, and the AL2 reached will require an investigation of cause. Multiple years of data will help clarify this result.

Megan Cooley presented NSC Report on 2016 AEMP.

- WLWB directives – 3A not explicitly mentioned; explicit mention of how key findings from the Plankton Report are brought into the Eutrophication Report
- Dust – noted higher dust deposition in south and southeast
 - Diavik clarified this is likely from A21 and a dust deposition site will be added on the dike
- Water / Plankton – 1 site sampled 2 weeks later than the others; possible effect should be discussed

- Suggested basing Action Levels during winter season on results from samples at the bottom only – noted that the benchmark would have to change if this was done, so net zero effect.

Comment: Would be helpful if activities and timing of A21 was explained in report.

Comment: Perhaps give dust data in open water and ice cover seasons rather than 1 result covering full year.

Q: Do we know what is happening with TN?

A: Plume is getting larger and spreading over time, nitrogen loadings are less than when Diavik was open pit mining, and will go up again due to explosives used in A21.

Q: What is residence time of lake?

A: 11 years

Q: any effects of dust on sediment?

A: hard to tell since it is all the same material

Q: why does phytoplankton swing so widely from year to year

A: don't know – any answer would be speculation

Q: Fish analysis didn't include livers?

A: Diavik consultants were not able to find the answer to that question.

Comment: Lower level in 2016 compared to other years might be expected if livers were excluded because toxins tend to accumulate in the liver.

Meagan Tobin, Megan Cooley, Zsolt Kovats, Rainie Sharpe, and Anneli Jokela signed off. Paul Green left.

15 minute break

9 - 2016 AEMP Report Review Cont.

ES presented summary of key points:

- High levels of chlorophyll *a* and Total Nitrogen
 - chlorophyll *a* was highest ever
 - N-S suggested increasing sampling for chlorophyll *a* to every year in FF
- Need to clarify whether livers were included in metals analysis
- Was there a toxicological effect on fish

Q: Knee jerk reaction to recommend increasing sampling in FF to every year?

A: Purpose of AEMP is to show effects on LDG. If those effects are extending to the FF Diavik should be showing this. Could pose this as a question to Diavik – do they feel increased frequency of sampling at the FF is warranted?

Noted that EMAB previously recommended increasing sampling of plankton in FF to every year. Also noted that the extent of chlorophyll *a* is at the edge of the MF so any extent beyond that cannot be detected. With the wide variations from year to year it would be good to know the full extent.

Q: How does increase in chlorophyll *a* affect lake water quality?

A: Chlorophyll *a* is essentially plant material. As it dies it falls to the bottom of the lake as organic material. If a lake has really large algal blooms it can restrict the amount of oxygen available to fish and other organisms.

Board only received N-S report today. It would have been helpful if EMAB staff had circulated it in advance. Would like more time to consider it before approving NSC AEMP Review.

Item tabled to Wednesday afternoon.

10) Closure workshop report review

ED presented item from kit. No comments were received from participants or Board members. Looking for a motion and votes to approve the report as it is just draft.

Item tabled to later in the day as guests arrived for next item.

11) Update on issues related to TSS amendment process

Chair asked for a round of introductions.

Scott Stewart, Marty Sanderson, Sarah Elsasser and Ryan Fequet joined meeting.

Q: How do we get around the Inspector being able to give a direction without having to go out and prove harm to the environment? EMAB is concerned the same challenge will come up again.

A (Lands): The Inspector has to make clear that it is his belief that there will be harm to people, property or environment. This was strongly implied in the Inspector's original Direction (harm to environment), but with law being law, he/she must explicitly reference Section 67(1)(a) and (b) of the Waters Act, and not just imply it. 67(1)(b) was not mentioned in the letter

Q: But from Diavik's perspective it was the question of whether harm had occurred?

A (Lands): Inspector's job is to enforce the water licence; must state belief that there is potential for harm to occur. If challenged, the courts can decide the legal aspects.

Analysis of that section of legislation has been done and a proposal is being put forward to get input on it, but not sure status of that. It is hard to prove that environmental harm will definitely take place; expert opinions can be used in court.

Q: Was the Inspector's directive rescinded because it didn't mention 67(1)(b), or because he couldn't demonstrate environmental harm?

A: If the Inspector believes environmental harm may occur, that is all that's required. The expectation is that the licence is protective of the environment.

Comment: Part of the problem is the structure of the legislation: Inspectors' only options are letters of direction and charges leading to court. Soon, they will be able to give administrative monetary penalties.

Noted that INAC is also reviewing the MVRMA.

WLWB

Description of how WLWB makes decisions. They are an administrative tribunal. The process is inclusive and comprehensive. They review all types of evidence in making decisions.

When developing new conditions they have criteria that must be met. Example of change to condition on drilling when caribou are within 500 m. of a drill site.

For EQC's the Board uses a waste minimization criterion. Southern standards are often not strict enough in the north, so many EQC's are site-specific. They look at environmental protection first. Then they look at achievability, and if that level is lower (more stringent) they may apply it.

The legislation is clear that the licensee must comply with the terms of the Water Licence.

There may be a disconnect between the WLWB setting EQC's and clarification of levels of a parameter that are harmful.

Q: Are criteria based on achievability versus environmental protection equally as enforceable?

A: There is no gap between environmental protection and achievement of EQC's. There may be a gap in the link between the WLWB's Reasons for Decision and the enforcement of legislation that requires demonstration of harm.

Scott, Marty, Ryan and Sarah leave.

EMAB follow-up Discussion

- Address this issue in our Annual Report, or provide recommendations to Lands/WLWB about what needs to be done in regards to legislation?
- Helpful for the GNWT to know that others are aware of this.

The Inspector stayed at the meeting and was not informed that the Board was having a Board-only discussion. Noted by the Diavik representative that it was highly inappropriate for a non-Board member (the Inspector) to participate in EMAB's follow-up discussion and that the conference call participants were not made aware that he was present.

Action Item: EMAB will put together a recommendation to GNWT Lands/WLWB "clean up" wording of Section 67(1)(b), stating the gap, and the concern.

Action Item: EMAB will also address this issue in the Annual Report.

Short break

10 - Closure workshop report review cont.

Motion: *Approve the Closure Workshop Report from February 14-16, 2017.*

Moved: Jack Kaniak

Seconded: Julian Kanigan

Motion carried.

5:00 - Adjourn for the day

May 24, 2017
Meeting Reconvened at 9:10 am

12) NCRP Final Closure Plan review, ICRP Version 4 Review

Bill Slater, Randy Knapp, Jennifer Kirk, Anneli Jokela, Patty Ewaschuk and Gord Macdonald all on phone.

Gord Macdonald presented highlights to changes in both closure plans (presentations in dropbox). He noted these are the key elements as defined by himself, so recommended a full review of the plans.

- Project Environment section has been updated with site-specific information
- Project Description section now includes A21, waste tonnages. It does not include the SCRCP
- Requirements for Permanent Closure has been updated for each component. It included the reclamation research, TK Panel recommendations etc. Concepts have advanced “as appropriate.” The research is now largely complete
 - Open pits – updated with pumping and fill rate; A21 fish habitat work; A418 pit ramps
 - NCRP – more engagement; 3rd party review of thermal modelling as per WLWB request – done by TetraTech – verified conclusions; some changes to closure criteria
- Infrastructure is a catch-all section; includes revegetation planning; Diavik does not have a specific revegetation procedure yet; they plan to revegetate the roads and laydowns and the process plant area
 - Considering alternate locations for the landfill; if PK is allowed to go into the A418 pit/underground, this might also be used for landfill
- North Inlet – did a 3rd party options analysis; preferred option changed to excavating east dam and replacing with material that will allow flow-through of water. Remove objective of re-connecting to LdG.
- PKC – concept changed to reflect most recent version in Progress Report. Long-term treatment system is a contingency (for NCRP, PKC etc. This was the original proposal in the EA
- Overall Schedule has been updated; end of mining in 2025 with A21 completed in 2023. Changed timing of de-commissioning of buildings until the end of closure.
- Overall changes – conformance tables have been updated; RECLAIM has been updated to include everything except the A21 rock pile.

Discussion

Q: South Country Rock Pile will be all Type I rock?

A: The geological material from A21 is tonalite, different from the northern pits. Type I rock has biotite schist, but a lower percentage than Type III, whereas they have not encountered any biotite schist in the A21 samples.

Q: Has Diavik done any sulphur analysis on tonalite?

A: Sulphur analysis was done on the rock from A21 during the EA process and when the decline was mined. Generally behaves the same as Type I rock from A418 and A154.

Q: Where will the caribou ramp in A418 be put? Will they line up with TK Panel maps or where it makes sense from a construction standpoint?

A: Short piece of pit wall will be exposed and there will be a ramp. Diavik hasn't linked the trail with any historical routes on the island.

Q: What was the global warming scenario considered for the third party review?

A: Would have to look at specifics, but it extended 100 years versus Diavik's study which only looked 60 years into future.

Q: Over a longer period of time, and if the pile starts to thaw, what will happen?

A: In concept, as the active zone extends into the Type III there is potential that water could get through the cover and exit out the bottom. This could lead to ARD and incrementally add metals to the seepage water as it passes through Type III rock.

Q: Would this have any effect on stability of the pile?

A: No, freezing isn't necessary for stability, only geochemical reasons.

Q: What monitoring is there for measuring freeze back within the pile?

A: Six thermistors were installed at varying depths (15-20m and 80m). Deepest part is the old quarry. The pile is generally frozen all the way down, and there is seven meters of thaw back.

Q: How long have thermistors been in the pile?

A: Most were put in around 2008.

Q: Is the rock toxic?

A: Has acid generating potential, which is why Diavik is building cover. This will improve seepage quality.

Q: How was dilution factor derived?

A: Mathematical modelling of stream entering waterbody with a minimal volume. These models were based on the EA.

Q: has Diavik considered wetland treatment for NCRP runoff?

A: this was mentioned in ver. 3.2 as a contingency; it has now been removed. If treatment is required Diavik believes active treatment would be the best contingency.

Q: What funds does Diavik have to monitor mine after closure?

A: Have 150 million dollars available until 2032. This number will likely decrease after 2032, but wouldn't go to zero as it needs to cover ongoing monitoring and maintenance.

Q: if climate continues to warm, the rock pile may thaw – what is the plan if that happens

A: Current plan is for Diavik to monitor up to 2032; it is not clear what will happen after that, what the requirements are or how best to do it. Diavik has included a proposed scope and cost in the plan

Comment: concern about potential for a rock slide.

Q: has Diavik put funds aside for monitoring past 2032?

A: Security is about \$150 million; expect some of this would be held back to cover long-term monitoring

Comment: monitoring and maintenance should not be a cost to the taxpayer.

Comment: this is a different situation than mines such as Giant; reclamation is fully secured.

Q: Seepage report mentioned NCRP seepage well; is anything reporting to those wells from the pile?

A: The NCRP seepage well collects seepage from the PKC, it is located in the NCRP. It is an SNP location.

Short Break

Q: Will Diavik revegetate the area around the portal, between the NCRP and the current pits?

A: Yes, that is the plan.

Q: why is Diavik considering other landfill options?

A: Possible capacity issue; might get better performance with landfill in pit; water will stratify and anything as the bottom will stay there.

Q: If the pit disposal is approved, will Diavik move material from the existing landfill?

A: no, this would just be going forward.

Q: How does the landfill in the NCRP affect closure?

A: The cover would be placed progressively; the landfill would be left open until all landfill material was placed.

Q: Could Type III rock used in construction around the mine affect closure?

A: Premature to be talking about impact on closure. Diavik understands the concern but needs time to work out issue.

Action Item: send Diavik Type 3 Rock mis-classification letter to Randy

Q: Are PKC dams required to stay frozen?

A: Not for stability, but freezing is needed to control seepage. Operations do not rely on freezing to control seepage - facilities are lined. Freezing assists with controlling seepage, but the dams will not be frozen core.

Q: what is the plan to keep the shore of the PKC pond safe for wildlife and humans to walk on?

A: likely involves geotextile covered with rock.

15 minute break

ED presented closure review proposals from kit.

Motion: *Approve Randy Knapp's proposal to review the WRSA Final Closure Plan and for him to attend EMAB meeting by teleconference.*

Moved: Arnold Enge

Seconded: Sean Richardson

Motion carried.

Motion: *Approve Bill Slater's proposal to review the closure objectives and criteria in the WRSA Final Closure Plan and for him to attend EMAB meeting by teleconference.*

Moved: Sean Richardson

Seconded: Jack Kaniak

Motion carried.

Q: Content in Jennifer Kirk's proposal?

A: She provides expertise EMAB staff do not have. EMAB has enough budgeted to cover her review.

Motion: *Approve Jennifer Kirk's proposal to review the SSRBCC in the WRSA Final Closure Plan and for her to attend EMAB meeting by teleconference.*

Moved: Jack Kaniak

Seconded: Arnold Enge

Motion carried.

Action Item: inform consultants that their proposals to review the revised WRSA have been approved and they should proceed.

Action Item: staff to continue review of revised WRSA

LUNCH

13) TK Panel Meeting

Joanne Barnaby, Bobby and Kathleen Algona, Madelaine Drybones, Bertha Catholique, and Natasha Thorpe (phone)

ED explained agenda and gave background on EMAB.

Noted that EMAB is curious to hear history/evolution of when the TK Panel was under EMAB.

Natasha Thorpe also gave a background of the Panel, how it transferred from EMAB to Diavik, Panel session topics, and how a typical session runs. Nine sessions so far; early sessions focused on terms of reference, topics to discuss. Later on different aspects of closure, caribou monitoring, vegetation and aquatic shoals – some at site, some in YK. Wanted a more direct line of communication to Diavik – answer questions, convey recommendations. Mostly the same panel members. Usually meetings are 4-5 days. Focus on issue for first two days, then move to recommendations; then Diavik gives initial response to recommendations. They have a large Excel table of all recommendations – over 150.

Comment: It would be better if we all worked together. Working together would help get recommendations to Diavik more quickly.

Q: From the Panel's perspective, how well does Diavik deal with the recommendations?

Response: if there is a specific commitment EMAB could help getting that commitment or recommendation to Diavik. It would be good to add a column to the table of what happened to the recommendation and whether the Panel is satisfied. EMAB could facilitate a session to see how satisfied the Panel is with Diavik's actions.

Q: Is TK similar in all communities? What does the Panel do if there is a disagreement?

A: There are not many disagreements, just different perspectives. Panel members are good at compromise. Cultural differences don't seem to be an issue- Panel members enjoy sharing knowledge and experience. Sometimes panel members want to talk to people at home to confirm.

Comment: There should be a plan to work jointly on developing a post-closure monitoring project. Dene are keepers of the land. Avoid invasive species; Diavik shouldn't use southern species for revegetation. Not good to change the food the wildlife eats. The land can fix itself if not too badly damaged.

Comment: Concern about how chemicals react with each other and the environment.

Comment: Sometimes recommendations get set aside until the Panel decides exactly what it wants to say. Sometimes panel members changes their minds after getting more information or discussing an issue more.

Q: Is there a plan to write about the Panel's methodology?

A: No plan right now, but that is a good idea. Would require funding and time.

Comment: Panel has been frustrated with mines not working together because it is the same habitat for wildlife. Also concerned about the reduction in number of sessions overtime. It is hard to keep engagement when there is so much time between sessions.

Q: Are there any changes the Panel would like to see?

A: Panel sees value in having youth attend sessions. This is a challenge for the budget but instills an ongoing relationship between youth and elders. Bringing youth to the site creates interest.

Q: What are issues in the closure plan from EMAB's perspective?

A: revegetation, bringing wildlife back, waste rock, North Inlet, climate change, long term monitoring.

Q: What are other topics the Panel would like to cover?

A: South Country Rock Pile, Women's dedicated session possibly on revegetation, and a session to review status of previous recommendations and Diavik's actions. The Panel would welcome suggestions from EMAB.

Q: What is driving the continuity?

A: The communities selected elders with first-hand experience in the area, they are committed and enjoy the process, built friendships, positive experience overall.

ED described EMAB's scientific review process.

Comment: concerned how the PKC will be closed. Will there be contamination in the water or the tailings.

Panel plans to make a new list of topics to be covered at future sessions. Next session is scheduled for September. Noted there is no accommodation at site until October at earliest.

Q: could board members observe a full TK Panel session?

A: the Panel would be open to that idea.

Q: any areas the Panel would like EMAB to make a recommendation on?

A: women's session on site in summer, focused on vegetation

Summary of issues:

- Frequency of meetings
- Inability of mines to work together
- Assessment by Panel of Diavik responses to Panel recs
- Update list of Panel topics – any suggestions from EMAB?
- Possible joint session with EMAB and Panel – maybe on long-term monitoring
- Document methodology for use by other mines

14) EMAB TK Planning

Action Item: Staff will summarize TK Panel discussion and suggest options for next steps at the next meeting.

15) SLEMA Update

Phillipe de Pizzo and Zhong Liu updated Board.

Budget has been cut back a lot so ED is now half-time, smaller office, fewer meetings.

Thirty person camp still on site. Mine has been flooding since January – will take a year. No more releases to Snap Lake; De Beers may have to treat freshet water.

De Beers used to have a TK Panel but the funds have now been allocated to each group to collect their own TK.

Q: How is the water quality?

A: TDS levels are still up – they expect they will start to drop soon. They are also elevated downstream. Fish did not taste good at last fish tasting event; this was the first time. Air quality and wildlife are good.

Q: Are there any lessons learned from the temporary shutdown?

A: De Beers did good job of preparing for temporary shutdown.

Q: How long are they willing to leave the mine dormant?

A: No clear answer. They may open the mine once Gahcho Kue closes. There is enough security to close the mine. De Beers will submit an updated closure plan in January 2018. It will include two scenarios – closure in next few years, or in 20 years.

9 - 2016 AEMP Report review Cont.

Q: any answer to whether fish livers were included in the metals analysis?

A: not yet

Q: Can Diavik provide a more detailed explanation of the factors considered in assessing the toxicological impairment pathway.

A: add this to questions in the comments table.

Motion: *Approve the 2016 AEMP Report Review completed by NSC with the addition of EMAB comments for submission to the WLWB.*

Moved: Charlie Catholique

Seconded: Julian Kanigan

Motion carried.

Action Item: Prepare covering letter for EMAB comments on 2016 AEMP report for Chair's signature and submit letter, comments and N-S report to WLWB.

16) IEMA Update - deferred

17) Board Member Update and Community Concerns (Roundtable)

Discussion on site visit timing

- Diavik cannot host a day trip in June, September would be better.
- Diavik may be changing the flight schedule from YK to camp, so keep checking on this

Discussion on community updates

- NSMA meeting in YK, open to public

Next meeting – noted Diavik will have a new President soon; suggested he be invited to September meeting.

Napoleon Mackenzie – YKDFN

- Went to First Nations meeting in Calgary for Treaty 1 – 11

Charlie Catholique – LKDFN

- Glad Terrie was able to come to the last meeting
- Concerned about attendance at meetings lately
- Lauren King has been replaced by Ray Griffiths

Sean Richardson – Tlicho Government

- Sjoerd is no longer the Manager
- New contact for Lands/Env is Jessica Hum

Arnold Enge – NSMA

- Shin is still Environment Manager
- Working on economic development file, advancing business opportunities
- Working on proposal to take over Diavik's windfarm

Action Item: follow up with Diavik on YK to site flight schedule changes

Action Item: arrange for meeting with NSMA in fall using a public meeting venue in Yellowknife

Action Item: include new Diavik president on agenda for September meeting.

Next Meeting

Next meeting is June 15-16 with first day tentatively in Behchokq.

Moment of silence

Meeting adjourned at 5:00

