

Environmental Monitoring Advisory Board

Minutes – December 3-5, 2018

Lutsel K'e and EMAB Boardroom, Yellowknife, NT

Present:

Napoleon Mackenzie, *Chair*

Charlie Catholique, *Director*

Gord Macdonald, *Director* (Day 3 – by phone)

Jack Kaniak, *Director*

Sean Richardson, *Director*

Arnold Enge, *Director* (Day 3 – by phone)

Yellowknives Dene First Nation

Lutsel K'e Dene First Nation

Diavik Diamond Mines

Kitikmeot Inuit Association

Tlicho Government

North Slave Metis Alliance

Absent:

Julian Kanigan, *Director*

Government of the Northwest Territories

Staff:

John McCullum, *Executive Director*

(minutes)

Allison Rodvang, *Environmental Specialist*

(minutes)

Environmental Monitoring Advisory Board

Environmental Monitoring Advisory Board

Guests:

LeeAnn Malley, GNWT (Day 3)

Randy Knapp, Knapp Consulting (by phone, Day 3)

Megan Cooley, North-South Consulting (by phone, Day 3)

Friederike Schneider-Vieira, North-South Consulting (by phone, Day 3)

Bill Slater, Slater Environmental Consulting (Day 3)

Jamie Steele, GNWT Inspector (Day 3)

Aileen Stevens, GNWT (Day 3)

Tara Bailey, Arcadis (by phone, Day 3)

Jennifer Kirkaldy, Arcadis (by phone, Day 3)

Lorraine Seale, GNWT (Day 3)

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| Monday, December 3, 2018 EMAB 5-yr Action Planning Session – Lutsel K'e: Denesoline Corp. Boardroom |
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| 1. Call to Order |
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Chair opened meeting at 2:45 pm

Charlie Catholique – opening prayer.

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| 2. Review Party Responses to Questions |
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ED gave some background on how Parties were contacted and who answered the questions from each Party. A questionnaire was sent to each of the Parties (discussed contact people at previous meeting); only staff in Land/Environment departments responded, not Chiefs or Senior Leadership.

ED summarized those areas in item in kit. Did not get a response from TG. Noted that TG responses will be conveyed during this item.

General comment from Parties - All very busy; happy EMAB is keeping track of Diavik.

3. Review EMAB mandate areas with comments from Parties

Oversight and Monitoring

Sean – Violet Camsell-Blondin is working out reporting process with Laura Duncan on getting a set schedule for doing updates to leadership and communities. Sean is reporting to Regulatory but also has to report to Community Directors. Will keep EMAB updated on how this is going.

Jack – agrees with having a two-page communications summary after meetings as suggested by LKDFN. More communication with communities is good.

Sean – want to continue having Jolene going to TK Panel meetings with Tlicho Elders to monitor how questions are asked and how consensus is reached from Elders. ED gave example of Panel recommendations on PKC Facility and how the recommendation from TK Panel changed based on Diavik's response.

Sean – discussed this with previous Tlicho Board Members. Wanted EMAB to continue monitoring Diavik after it stops operations. Violet said she would like EMAB to seek the funds to stay around after mine closes.

Community Involvement

Sean – putting together community updates which will be done via respective departments and invite all three agencies at once, Violet and Jolene are working on this.

Charlie – update leadership after meetings to keep them in the loop

Napoleon – could talk to council after each EMAB meeting

Sean – suggested inviting Land/Environment managers to AGM, put Michael Birlea on list to attend for AGM

Q: Does EMAB invite alternates for AGM? A: Not if Board Member is there. Looking for someone to speak on behalf of community besides board members. Alternates need to stay informed, however, AGM is maybe not the best forum to do this.

Sean – looking at sending Elders to AGM. EMAB sets aside funding for members of community to come. Would still like Diavik to keep on developing policy for environmental monitoring training. Need TK monitors to make sure work Diavik is doing has value for the land and wildlife. Also hoping to get a translator to set up 'Tlicho Hour'; the two-page summary (LKDFN suggestion) could work into summary of what translator reviews on radio to present to community.

Charlie – dust is a big issue on site. Yellow coloured dust cloud. Bring this up when talking to Tara on Wednesday.

Jack – would be helpful to show whether water is safe to drink. Can't see a lot of contaminants

Sean – Leona Lafferty can be contacted at Tlichio office. Wildlife and Wilderness safety program that meets standards of Aurora College. Joined BEAHR program with federal contaminated sites program. Working on sites that never had to deal with environmental regulations, on the job training with partnership through INAC.

Jack – agrees with Sean about INAC being involved. Monitors be trained by qualified people, concerned about monitors working for Diavik, should report to INAC, be independent of Diavik

Sean – people working in the mines are not allowed to have more than one employer, issue for when TG wants to consult on what to monitor at the mine.

Need to do some follow up on section from 2013-18 strategic plan on need for information on participation of Aboriginal People in training and monitoring – suggested Diavik HR would have this information, if they are able to share (possible privacy issue).

Action Item: make sure most recent TK recommendations table is on website

4. Assess Strengths and Weaknesses

ED turned to Board for input.

Discussion:

- how do we best get community members to attend community updates and share their knowledge? Do we switch to focus groups, pay Elders, pay specific individuals rather than open to the public? People have become accustomed to being paid to go to meetings. This should be something of interest and importance.
- When production stops, EMAB should continue to monitor throughout closure.
- board meetings in communities – should meet in one of the communities every year
- Technical reviews are good, especially the plain language summaries
- People in communities don't know what EMAB does
 - Noted that elders often need more than one meeting on a topic to get a full understanding
- Are there any qualifications to be a TK Panel member (Do you have to be an Elder)? There are some very knowledgeable individuals, but they may not necessarily be considered Elders. Want to have younger generations who have TK from parents and have better understanding of the mines.
- Concern expressed about conflict of interest by the Diavik representative.
- Request Diavik appoint an independent board member ie. not an employee. This could solve more conflicts.

Action Item: Need more information on how to identify a conflict and proper procedures. Are there mechanisms to have discussions at EMAB meetings without Diavik member present?

Action Item: Policy should require one Board meeting per year in an EMAB community.

- Board Members should notify Chair when they feel there is a conflict of interest.

Meeting adjourned at 5:15 pm.

Set up for community update. Presentation, dinner and take down 6 pm – 9:30 pm.

Tuesday, December 4, 2018 – Denesoline Corp Boardroom, Lutsel K'e

1. Call to Order

Meeting called to order at 9:30 am by the Chair

2. Approval of Agenda

EMAB should send letter to Lands and Wildlife because of some organizational issues with arrangements.

Action Item: ED to draft letter to Lands and Wildlife regarding organization of meeting arrangements. Cc Chief and Council.

3. Conflict of Interest

No conflicts were declared.

4. Minutes of Previous Meetings

Board reviewed the September 11-12, 2018 meeting minutes. ED pointed to a change in air quality numbers that Sean Sinclair requested to be changed for accuracy.

Motion: *To approve the September 11-12, 2018 meeting minutes, as amended.*

Moved: Sean Richardson

Seconded: Charlie Catholique

Motion carried.

Action Item Review. Discussion:

- Get report from Katherine Harris regarding air quality; provide title to Sean Richardson
- Remove the Laura Duncan Action Item as that is being overtaken by what Violet is doing with organizing community updates

Water Licence Amendment Application Process schedule was reviewed in terms of how it will impact EMAB's calendar.

Motion: *To approve the revised 2018-2019 Board Calendar*

Moved: Sean Richardson

Seconded Jack Kaniak

Motion carried.

Noted that if anyone from EMAB receives an email from Laura Hunter at TG it is spam and should not be opened.

Question: what does EMAB know about the environmental effects of the winter road and how they are monitored? How are complaints from communities tracked and addressed?

Action Item: Send letter to Joint Venture requesting what is being done to monitor environmental effects of winter road, and effects of climate change.

5. Financial Report – to Nov 2018

ED presented item from kit. Proposing some budget revisions to cover consultant costs for Water Licence Amendment Application process.

Noted that Wekweeti and Whati would both like a community update.

Action Item: send oral translation of Annual Report to Tammy Steinwand.

Jack sent it to KIA; he did not receive any feedback.

Action Item: Note availability of oral translations on Facebook page

Q: Did the treasurer have a chance to look at budget? A: Yes

Motion: *To approve revised budget for 2018-2019*

Moved: Charlie Catholique

Seconded: Napoleon Mackenzie

Motion carried.

Discussion on updates to member roles in Operations Manual:

- Could give this description of role of Board Members to the Parties, as some Parties were unsure what Board member roles were as reviewed under Party Responses to questions
- Change wording of community to communities to account for Parties with multiple communities

Motion: *to approve the updated section on role of EMAB Board Members in the Operations Manual as amended*

Moved: Sean Richardson

Seconded: Charlie Catholique

Motion carried.

Action Item: Put annual report translations on Facebook

BREAK

6. ED Performance Review

Item was postponed to next meeting as all the Committee members were not present.

7. WEMP Recommendations response review and follow-up

ES presented item from kit. Fairly pleased with Diavik responses compared to previous years.

Discussion:

- Caribou are avoiding the mine, still a big effect
- Other herds besides Bathurst are experiencing dramatic declines
- Climate change is a factor
- Where are the caribou going?

- Diavik should work more with Aboriginal people on the ZOI issue and caribou in general, this includes behavioural monitoring too. Could do this work with the TK Panel (noted that Panel has made recommendations on this in the past)
- Elders can provide insight into caribou behaviour
- Only caribou know what the ZOI is
- ENR attempted to survey all herds in a short period to see if caribou were joining other herds: all herds had lower numbers
- Grizzly bear spotted in Behchoko recently, which is very unusual, possibly first time ever. Normally only black bears would be present in that area. Can DNA provide information on where this bear came from?
- Petter Jacobsen is trying to expand the BOTG program to the winter months. Talk to him about the change in caribou migration around Lac de Gras.

Action Item: Invite ENR to an EMAB meeting to talk about the most recent survey results and caribou in general.

Action Item: Ask MSES for information they have on Adaptive Management using TK.

Action Item: EMAB to draft letters to GNWT and Diavik regarding the 2017 WMP Report as set out in Item Description. Include recommendation that Diavik continue to monitor behavior outside ZOI. Add that we would like a schedule for the grizzly bear and wolverine surveys.

LUNCH

8. TK Recommendations Review

ED presented item from kit.

Discussion:

Q: How far do recommendations go back? A: 2012

Q: Has Diavik done any follow-up with the recommendations? A: This is a question for Diavik as follow-up actions aren't generally shown on the table

Q: How much time is being spent on this? A: Two- or three-days total so far. As long as we have time it can be done "in-house" and don't need an expert necessarily.

Comment: Would be good if there was someone from EMAB to observe the next TK meeting. Noted that EMAB has been invited to attend all of the next meeting.

Q: If there is a conflict between EMAB's recommendations and TK recommendations, what happens?

A: Neither one has more weight for Diavik, but for the WLWB, EMAB makes recommendations directly, whereas Diavik can highlight to the WLWB what the TK Panel has said. EMAB can do the same thing.

EMAB staff will be able to observe the next TK Panel session

Next Steps: Continue and next meeting there will be a full report.

Meeting Adjourned at 1:15 pm

Wednesday, December 5, 2018
Meeting reconvened in Yellowknife at 9 am
EMAB Boardroom

9. Water Licence Amendment Application – PK into pits

On the phone:

Megan Cooley and Friederike Schneider-Vieira, North-South Consulting
Randy Knapp, Randy Knapp Consulting
Gord MacDonald, Diavik

In the office:

Bill Slater, Slater Environmental Consulting

Gord presented on Diavik's response to the WLWB Information Request. This is a summary of Diavik's responses to each of the WLWB Information Requests (IR's). Also submitted modelling reports. Note that this is a preliminary model. Surface water quality is predicted to be well within AEMP benchmarks using any of the scenarios. If PK is not deposited, deep water quality will stay similar to Lac de Gras. If PK is deposited the deep water will be contaminated but it will stay in the deep area with a slight diffusion to the upper layers. Conclusion is that depth of freshwater cap is the most effective mitigation for water quality.

Discussion:

- 2022 would be the earliest this work will start
- Q: Does the model account for wind events? A: Model simulates weather events, most of year would be frozen, but would simulate weather events across time
- Water quality was sensitive to depth of water cover but not to the size of the breach Diavik tested
- All predictions show mixing of surface and deep water in October using temperature. Diavik suggested temperature might not be the best indicator.
- Q: Is it worth reducing the amount of circulation in the pit now that we are putting PK in the pit? A: models show strong meromixis with the breaches, regardless of size of breach, but something Diavik could evaluate later in the process. They were looking at opposite – how much additional circulation would break down meromixis
- Q: what is proposed depth of cap? A: not fixed yet, likely 150 m. Minimum would be 50 m.
- Q: What is the likelihood of PK becoming re-suspended? A: No re-suspension predicted even at 20 m.
- Q: Lac de Gras has deep water currents; how were these accounted for? A: Information collected during baseline days of the currents is extent of what Diavik has.
- Note: Diavik should consider documenting currents in relation to poor quality water being circulated in LdG.
- Q: Does particle size affect the model results eg. Slimes? A: haven't modeled to that level of detail. Noted that existing pit lakes in other mines have not had re-suspension.
- Q: What was depth of water cover in unanticipated mixing? A: All scenarios were modelled.
- Q: Effect on Lac de Gras water quality with mixing? A: no degradation
- Q: Potential harm to fish? A: Since 50 m. cap prevents mixing Diavik didn't consider this.

- Q: Benthic invertebrates and fish co-exist; what is the predicted effects on benthic habitat? A: Diavik is assuming that PK is not useable fish habitat so did not look at effects to benthics.
- Q: Which fish species were assessed? A: Not assessed because there were no effects predicted to fish based on water quality predictions. If unanticipated mixing happened there could be a risk for some months but mixed water would disperse in Lac de Gras
- Q: At 150 m depth are fish not known to live? A: Fish would not be using that area and they would be using the surface water. Comment: Some fish might live in deep water, how certain is Diavik that they won't be using water this deep? A: Fair question
- A: When was the TK Report released for this session? A: Already out with this submission
- Noted that Diavik doesn't have a mechanism to release TK Panel reports – maybe EMAB could do this? Possibly when discussing TK Panel in Annual Report.
- Q: In the initial engagement with EMAB, don't recall the possibility that deposition would be in all three pits. A: It may not have been emphasized as EMAB was one of the first groups Diavik presented to
- Comment: Don't see an issue with flexibility of which pit to dispose PK in as long as WLWB is satisfied and regulatory requirements are met

10-minute break

Randy presented his review. Discussion:

- Diavik did respond to all the questions, but how happy are we with their responses?
- Currently approved closure plan indicates pits will be stratified; this application says they aren't – shocking, first time this is indicated. No mention or comment of this change in the application, which was surprising. Result is most likely due to the information included in model, but Diavik needs to be explicit about this. This would be a material change to the closure plan
- Depth of water cover important, having less mixing
- Over time we can see contaminants moving up, looks like future mixing will occur. Diavik needs to address when the stratification will break down
- Calibration for model needs to be examined; poor data for calibration makes model results suspect
- Assumption that contaminants will flush out quickly if pit lake turns over needs to be looked at more carefully. If turnover happens, model predicts it will be in October as the lake is freezing. Contaminants would disperse more slowly under ice.
- Starting conditions of model – will not just be water from Lac de Gras over PK; what happens when water from Lac de Gras is pumped into the pit? This stage is important and should be modelled.
- Analysis of pore water input should be done
- Q: is there enough information to support Diavik's conclusions that there won't be any effects to fish? A: Not enough information; a complete analysis of mixing event needs to be done and how this will affect fisheries and water quality in Lac de Gras. Not just metals, but low levels of dissolved oxygen could also be a concern.
- Diavik asked if this is something that can be done in a more detailed manner as Diavik gets closer to approval. A: No. Beyond understanding of requirements for an amendment, model is suspect.
- Q: Breaches at different heights? A: All at same level, originally intended to limit circulation for fish habitat

- Suggestion that the model inputs are the reason it shows breakdown of meromixis. Diavik agrees that porewater release is likely highly overstated.

Bill presented results of review. Discussion:

- First point – Model starts after pit lakes are full. Misses out on transitional state. Model assumes water quality is adequate for connection with LDG. Ignores other important load sources including layer of porewater on top of PK in pit as well as mixing process (water management plan for how this would be taken care of during filling of pit with lake water is not provided). WLWB asked for closure and post closure, while model looks more at post-closure.
- Second point – Modelling now predicts fully mixed pits if no PK placement ie. no stratification. Current ICRP shows meromixis in pits, which suggests current ICRP is not relevant to what is being predicted to occur. Leaves concern with validity for the model.
- Third point – Don't have any detail about PK consolidation model that inputs to WQ model. Was there testing of consolidation?
- Fourth point – based on the model predictions the closure criteria for the pits will need to be re-defined.
- Q: Implications for closure objectives and criteria? A: Deal with resuspension, interaction of fish and aquatic ecosystem in pit lakes which is more challenging to deal with. Need to know what depth of water fish in Lac de Gras will use
- Q: Are they going to open the pits up? A: If water quality is good enough and meets standards PK in pits would be preferred; more stable. Model leaves a lot of uncertainty
- Q: Is PK disposal in pits a suitable option? A: Preferable if they can overcome fish habitat and water quality issues in Lac de Gras
- Q: Presumably not filling all pits with PK, so does modelling need to be redone for pits without PK, change in closure plan? A: Diavik does expect to re-do this modelling with more information to answer these questions, wouldn't say it invalidates ICRP
- Q: If it fully mixes without PK does this demonstrate a concern? Onus is on Diavik to show the closure plan will work as proposed.
- Q: Was there modelling done to support meromixis in earlier closure plans, or was this just assumed? A: Noted that Preliminary Pit Lake Mixing Study, Golder 2010 was part of 2011 ICRP. One of these models is wrong.
- Q: Consider distributing PK into all three pits equally? A: Wouldn't work for Diavik because they need to use a pit that is inactive. Some PK could go into other pits after closure

NS presented results of review. Discussion:

- NS agrees with a lot of the previous consultants' comments
- Model needs to include ground water and pore water inputs; how would this change predictions
- Agrees with points made about meromixis in pits without PK
- At what depth would AEMP benchmarks be exceeded and what could fish be exposed to? Need a better idea of water quality at a range of depths
- In the most recent closure plan, fish habitat improvements are planned for shallow water. Fish also use open water in pelagic zone; to what depth of the water column will they use? Consumption of invertebrates at depth could also occur.
- Total nitrogen wasn't included as a parameter. Bringing this up as this parameter has received a lot of attention in AEMP. pH and dissolved oxygen were also not looked at. The pit lake

could become anoxic at depth, if undergoes full mixing what effect would this have on fish?
Could this cause fish kills?

- Effects of other dissolved gases like carbon dioxide and methane
- Value in including additional sensitivity analysis. For example, doubling pore water loading – if water quality is still good after this is modelled it gives more certainty
- Long term load of contaminants to Lac de Gras – anticipated effects, at 100 years there is a gradual diffusion of materials, effects are minimized by surface water mixing with Lac de Gras, meaning Lac de Gras is getting long-term loading of contaminants
- Q: Anything that jumps out as alarming? A: not enough information included so NS can't reach conclusion on that
- Worst case is you leave the pit closed and then it wouldn't be available to fish. Put screens to prevent fish from moving in
- Slide 12 of Diavik's presentation demonstrates sulphate going down over time, this means it is dissipating into LDG
- Diavik looked at different depths of breaches didn't make much of difference

Board to discuss follow-up after lunch

10. Inspector's Report

Jamie Steele joined meeting. Presentation and Discussion:

- Several containers of waste diesel were not labelled properly; burn pit was being misused; some sloppy re-fueling – these have all been fixed
- Diavik tore down south camp and put inert materials in dump, did inspection to make sure there were no hazardous materials. Going to use the additional space for winter road traffic
- **Q: Procedure for disposal of surplus assets? A: EMAB will draft letter to Diavik asking about community access to surplus assets rather than having them landfilled.**
- Q: On the waste rock misclassification, are the areas identified by Diavik the only areas likely to have received type three rock? A: Diavik did pretty good job of the investigation and lucky they had a project going on as it meant where the rock was going was well documented. Diavik got lucky with this. Now the checks and balances are in place – all underground rock is treated as Type 3.
- Q: was the waste rock sampling done using a proper statistical design. A: can't speak to that, but it looked thorough.
- Q: Data suggest rock is okay now, but could there be chemical leaching in the future? A: Absolutely, if there was leaching it would report to existing sumps so effects would be detected quite easily, going to have to monitor this.
- Q: Is there a requirement to speak to this (waste rock misclassification) in any reports/where do we look for this follow-up? A: WLWB has list of requirements and how it impacts submissions to them. Inspector would like an inventory of all potential locations in all future WRMP. SNP reports will be best place to look for water quality issues.
- Sampling results of misclassified rock not close to chemistry of Type III – basically Type 1; not a perpetual non-compliance because of sulphur results
- Waste Rock misclassification summary report is on ORS right now
- Q: Contaminated soil stored in landfill? A: No, goes to land farm in WTA, contaminated soil of larger diameter ie. rocks is stored in WRSA
- Q: Wildlife? A: Don't really get wildlife reports, anecdotal

- Q: Last time in underground? A: Haven't been down yet, up until recently just trying to get handle on compliance issues - waste rock

Action Item: EMAB to send letter to Diavik asking about what its policy is on a community's ability to obtain surplus assets.

Action Item: EMAB to consider discussing TK Panel report results in annual report

LUNCH
12 pm – 1 pm

12. EAQMP Assessment

Tara Bailey and Jennifer Kirkaldy, Arcadis joined meeting by phone. Aileen Stevens, ENR attended in person. Jennifer made the initial presentation

Discussion:

- Q: Yellow haze that blankets site – is this being monitored in air quality program now and if not, how do we measure it?
- Review to date has focused on 2017 EAQMP Report to tease out some detail. TSP in the north has been done successfully in some locations (Gahcho Kue, Red Dog mine in Alaska) however costly in instrumentation and resources (significant part of one's job). One of challenges at Diavik is they don't have someone looking at data on frequent basis. How often is data downloaded from monitors? How often is alarm data reviewed? It would be helpful to monitor data in real time; they could look at things much more frequently when an issue arises, which would drastically reduce downtime. Generally there seems to be a maintenance problem.
- In general, data capture is poor at Diavik.
- Gahcho Kue (GK) has a different, more modern, beta monitor, which includes a nephelometer (sp?). Data capture may be frequently interrupted by data outages which would lead to resetting of instruments.
- Went back to original EA documentation/CSR to look at purpose of TSP monitoring. Primarily to confirm results of original study and to monitor dust control measures.
- TSP is not good indicator of effects on people, but good indicator of success of mitigation measures
- Infrequent review of data means that if there were a dust excursion, by the time they look at it, it could be over. Data is quite spotty, even if were excursions you may not know this.

Going forward

- Haven't seen the modelling information to determine if model can be verified. Might be a useful exercise.
- Location of monitors could be an issue. Seems like they are upwind; definitely limited usefulness for monitoring dust control effectiveness
- Desktop study for other operational mine sites in north to look at other types of monitoring activities. Found 12 sites which have operational dust monitoring in varying forms
- Original model Diavik conducted for EA was deemed to be inadequate. Produced another model later that informed the EAQMP. Don't know where these results are housed. Neither EMAB nor ENR has seen the model.
- Noted that EAQMP should link back to CSR predictions

- Does data that we have allow us to make sound management decisions? Diavik can revised the program but needs to be able to manage based on results
- Noted that ambient results should be looked at together with dust. Noted that dustfall monitoring is not great; doesn't follow standard methods. Dust and TSP are linked in CSR.
- EMAB did not include the dust monitoring in Arcadis' scope for this work
- Noted that Jay project EA directed GNWT to set dust levels that are protective of caribou. Research is ongoing on this.
- Arcadis feels TSP monitoring should continue
- ENR will email some information to EMAB that might help the review.
- In order to discontinue the TSP monitoring Diavik must provide a rationale backed up by data and analysis. Much of this information has not been provided.
- Noted that in other situations Arcadis has correlated TSP data with dust data to provide extra information
- As long as TSP is produced it should be monitored
- EMAB is concerned that dustfall monitoring is based on AEMP objectives. Might be useful to bring air quality reviewers and AEMP reviewers together to discuss.
- Yellow haze could be from NOx emissions via generating plant, or SO2, due to an air inversion. It is likely floating above air quality monitors. People would like some type of assurance about this haze. Diavik doesn't monitor NOx directly, it is calculated and reported on through the National Pollutant Release Inventory.
- Q: Does it fall out? A: See it when there is stagnant air, on days when air is moving it disperses. Precipitation would bring it down. Would likely need a lot of meteorological data to get more information on plume. Report on NOx emissions and compare to previous years based on fuel
- Diavik did model for NOx and SOx but result did not include these parameters

Action Item: EMAB to obtain air quality modelling predictions from Diavik.

Action Item: Staff to cost out adding dust monitoring to Arcadis' scope, including haze issue and potential ways to track plume.

Action Item: LeeAnn Malley to send information to EMAB

13. Update on GNWT long-term liability

Lorraine Seale joined meeting and gave update on GNWT's development of long-term liability policy.

Discussion:

- GNWT wrote back to EMAB's recommendation saying they were working with multiple groups
- Compiling list of gaps from land owners and land and water boards and then identifying next steps; includes amendments of legislation such as the Waters Act and Territorial Lands Act.
- Hope to have more public information in 2019.
- GNWT is also receiving requests from companies to return security
- GNWT is following existing guidelines for closure
- GNWT is compiling info from various projects on costs etc.
- Q: How long will monitoring post-closure go for? A: Monitoring post-closure for a certain period, this can be described in the closure plan.
- Monitoring is done by monitoring criteria and closing off objectives. Hard to go back if something goes wrong after everyone signs off. This is a very important topic.

- Q: Will GNWT be building a length of time into the policy? A: GNWT is expecting it to be monitored for a long time
- Policy framework for updating legislation
- In next ten months GNWT will set out a process for developing the policy; as noted they already have existing guidelines.
- Q: will GNWT policy require long-term monitoring? A: as an example, monitoring at Con will be 50-100 years.
- GNWT is not developing a policy. It is updating legislation and these should be in front of the legislative assembly in 2019, notably the Lands Act. They are also dealing with other departments, meeting with landholders and identifying legislative gaps.
- Q: Is there a road map based on consultations? A: Updating legislation and dealing with recommendations from auditor general report (2012). Those are current pieces, putting together next phase now. 2012 report was what prompted GNWT to develop a comprehensive security system to track all security being held
- Q: what happens if something goes wrong in the long-term? A: Don't have piece for signing off and GNWT taking over site. GNWT is looking at other models. Saskatchewan has very stringent criteria for accepting the site into their control.
- In theory Saskatchewan has legal authority to pursue proponent after something goes wrong down the line.
- Q: Will be some form of public review process? A: Yes
- There might be some things GNWT has articulated for other projects. It would be good for EMAB to get this information formally as EMAB doesn't formally communicate with other projects.
- Q: Snap Lake could be first set of lessons that would be applicable to Diavik or Con Mine? Could they set a precedent A: Could inform but doesn't bind or restrict
- Q: Feedback from industry? A: Mines are interested in long term issues
- Concern from industry as they don't understand the process of trying to get funds back. Don't have a best practice document for how EA security is looked at. Funds need to be adjusted – additional security deposit. GNWT does not have a best practice guideline for security refunds.
- Q: When will the mine be handed back to the people? A: Go back to GNWT, could change if there was a land claim agreement made.

Action Item: copy of minutes to Lorraine Seale

Action Item: Lorraine to provide information on policy as articulated in relation to other specific mines/projects.

BREAK

11. (postponed) Lake Trout Mercury Review

ES presented item from kit. Noted that a proposal has been received from NSC. Cost ranges from \$25K to \$37K depending on level of review.

Discussion:

- Elevations in mercury can be driven by sulphur
- Q: Correlation between slimy sculpin data and lake trout mercury data in proposal? A: Different life cycles so no biological link

- Noted a story that DFO is doing mercury mitigation in the NWT/Mackenzie Valley by removing large lake trout – would like staff to look into it.
- Staff to review proposal more and present to board at later date

Action Item: Staff to review NSC proposal and present to Board later

Action Item: Staff to check into DFO mercury mitigation in NWT via large lake trout removal

14. ICRP Update

The WLWB is still reviewing comments and recommendations but were set to discuss item on Friday, December 7. It is likely a decision will be out early next year.

15. Board Member Update and Community Concerns (Roundtable)

Jack Kaniak – KIA

- Nothing to report on at this time

Charlie Catholique – LKDFN

- Chief and Council did not attend EMAB public update in Lutsel K'e. They are very busy and often away.

Sean Richardson – Tlicho Government

- Thanked Charlie for having meeting in Lutsel K'e
- Will keep EMAB informed on getting more communication out to the public

LeeAnn Malley – GNWT

- EA amendments for devolution – identified proposed changes; in legal before it can be circulated to Parties. Produced a draft addendum
- Lay down ground work with INAC so they know what changes are
- Letter, strikethrough, addendum is what people would sign off to ratify changes
- Would like to be more present at these meetings. Good venue for information.
 - She will take direction from Board on how involved to be

Napoleon Mackenzie – YKDFN

- No concerns
- Lots of wolves around; watch your children

Arnold Enge – NSMA

- No concerns
- Suggests YKDFN appoint Napoleon to SLEMA
- Would like EMAB to fly him up for next meeting

Next meeting – currently February 26-27

EMAB Office Closed December 21-Jan 3

Meeting adjourned

Closing Prayer – Napoleon Mackenzie