



Snap Lake Environmental Monitoring Agency
Main Floor, Lahm Ridge Tower
4501 Franklin Avenue
P.O. Box 95, Yellowknife, NT X1A 2N1
Phone: 867-765-0961 FAX: 867-765-0963
Website: www.slema.ca

Alex Hood
Regulatory Specialist, Environment & Permitting
De Beers Group of Companies
300-5120 49th Street
Yellowknife, NT X1A 1P8

File: Air Quality Monitoring

September 1, 2017

Re: Air Quality Monitoring Update for Care and Maintenance

Dear Ms. Hood,

Snap Lake Environmental Monitoring Agency (SLEMA) has reviewed the Memorandum for Air Quality Monitoring Update for Care and Maintenance, and would like to provide the following comments.

It is understood that

- As a result of the changes of site infrastructure during care and maintenance (C&M), power will no longer be supplied to the Thermo Scientific 5030 SHARP Monitors for PM_{2.5} at their current locations (Airstrip and Emulsion Plant). Thus, a change to the SHARP Monitor operations is necessary during C&M.
- De Beers proposed two options for PM_{2.5} Monitoring, and did not propose any changes to the passive monitoring of SO₂ and NO₂ at the Mine.

The two options are

- Option 1: SHARP Monitors will operate at their current locations for the months of May to September, but not between the months of October and April.
- Option 2: SHARP Monitor located near the Airstrip will not operate between the months of October and April, but will



Snap Lake Environmental Monitoring Agency
Main Floor, Lahm Ridge Tower
4501 Franklin Avenue
P.O. Box 95, Yellowknife, NT X1A 2N1
Phone: 867-765-0961 FAX: 867-765-0963
Website: www.slema.ca

operate for the months of May to September; SHARP Monitor located near the Emulsion Plant will be relocated to near the Communications Shack and operate year round.

The Air Quality Meteorological Monitoring and Emissions Reporting 2016 Annual Report (2016 Air Quality Report) indicates that

- Particulate matter concentrations (Total Suspended Particulate and PM_{2.5}) could be elevated in both summer and winter (Table 18, 20 and 21 of the 2016 Air Quality Report).
- In total, five exceedances of the 24-hour PM_{2.5} standard were recorded at the emulsion plant, and seven exceedances were also recorded at the airstrip, in 2016.
- Action Level I was triggered for PM_{2.5}. Action Level I indicates that monitoring should continue and no mitigation is necessary.

Option 1 is not consistent with the requirements of the Environmental Agreement, thus not acceptable. In addition, the data loss of PM_{2.5} will be seven months per year, and there will be not compliance record for the period of October to next April.

Option 2 is barely acceptable, considering the limited capability during C&M. Option 2 may partially fulfill the continuity of particulate monitoring, though there will not be PM_{2.5} data available for seven month every year at Airstrip Station.

The Memorandum provides some explanations but not enough for the justification of SHARP monitor relocation and compliance record.

It is stated in Option 2 (page 3 of the Memorandum) that demonstration of compliance with ambient air quality benchmarks at the new location can reasonably be extrapolated to represent compliance at off-site locations. However, air dispersion modeling for the C&M period has not been completed. The previous modeling was done in 2007.

It is requested that De Beers update the Air Modeling to



Snap Lake Environmental Monitoring Agency
Main Floor, Lahm Ridge Tower
4501 Franklin Avenue
P.O. Box 95, Yellowknife, NT X1A 2N1
Phone: 867-765-0961 FAX: 867-765-0963
Website: www.slema.ca

- Reflect the current status of care and maintenance and provide guidance for the air quality trend in the future under various scenarios (reopen, extended care and maintenance, and permanent closure).
- Analyze the impacts of the relocation of SHARP monitor at the Emulsion Plant and demonstrate the compliance at off-site locations through extrapolation.

If you have any questions whatsoever please feel free to contact the undersigned at 867-765-0961 / exec@slema.ca.

Sincerely,

Original signed by

Philippe di Pizzo
Executive Director