

## 2AM-DOH1323 Commitments List

**Table 1: Updated Summary of Commitments during NWB Technical Meeting**

No	Issue	Commitment	Provided/ Received By	Due Date	Associate d NWB Technical Comment	Current Status (June 16 2016)
1.	Concerns about the capacity of the TIA to accept saline groundwater	Receipt of memo from TMAC to detail TIA capacity (combined with commitment under item 4)	TMAC/ NWB	3-Feb	ID# INACTC6	Memo: Response to EC IR #10 – Closure Water Management – UPDATED to Reflect the Alternate Water Management Strategy of Discharging High NaCl Concentration (>10,000 mg/L) Mine Water to the TIA by SRK on Feb 3 2016
2.	Satisfactory explanation of measures that will be implemented to ensure that water will not pond against the edges of the thermal rock fill pads after closure	Provide a letter to update the Interim Closure Plan to address any ponding of water near pads	TMAC/ NWB	3-Feb	ID# INACTC10	Memo: Addendum to Document P5-2 – Interim Closure and Reclamation Plan by SRK, Feb 3 2016
3.	The Tailings Management Plan - TMP should be revised to include the use of environmentally suitable chemical dust suppressants	Tailings Management Plan needs to be revised to include procedures for the use of appropriate dust suppression products. Submit 6 months in advance of operations as per current water license	TMAC/ NWB	30-Jun	ID# INACTC11	TMP submitted on June 2, Appendix A “Dust Management” submitted on June 13.
4.	Water Treatment management and water treatment plans if the TIA storage capacity is insufficient due to not meeting discharge criteria	Receipt of memo from TMAC to detail TIA capacity (combined with commitment under item 1)	TMAC/ NWB	3-Feb	ID# INAC TC13	TMAC Memo: Response to EC IR #10 – Closure Water Management – UPDATED to Reflect the Alternate Water Management Strategy of Discharging High NaCl Concentration (>10,000 mg/L) Mine Water to the TIA by SRK on Feb 3 2016

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5.	INAC questions whether storage volume is sufficient for increased waste rock storage underground	To confirm resolution of outstanding issue with INAC EA (i.e. that NIRB process will be adequate to address	INAC/ TMAC	3-Feb	ID# INAC IR#12	Resolved as per INAC letter on June 1. Conditions to be incorporated into the Amended licence.
6.	Final cover system design to be submitted prior to construction	Tailings Management Plan and TIA cover design to be submitted prior to construction; if progressive reclamation to be implemented provide engineer drawings in advance	TMAC/ NWB	over Project Life	ID# INAC IR#14	
7.	Concern about interconnection between Madrid Advanced Exploration Project in the Doris North Type "A" Water Licence	Confer with INAC EA group and confirm via e-mail resolution of handling of Doris and Madrid applications in NWB/NIRB processes	INAC/ All parties	3-Feb	ID# INAC IR#16	Resolved as per INAC letter on June 1.
8.	Require more information about surface water features along the effluent pipeline corridor that could be impacted if there was a leak/failure along the pipeline	Provide maps showing effluent pipeline corridor and nearby freshwater streams, ponds and lakes. Including topographic contours to show flow direction.	TMAC/ NWB	With submission of engineer drawings (60 days prior to constructio n	ID# NWB-1	Engineering drawings to include Surface water features; drawings, to be submitted 60 days prior to construction (May 18 Meeting)
9.	Require more information regarding spill response and spill prevention measures along the effluent pipeline corridor	Update Spill Response Plan to include measures to protect watercourses	TMAC/ NWB	15-Sept (90 days prior to operations)	ID# NWB-2	TMAC (May 18): 1-Spill prevention along the tailings pipeline to be addressed in the TMP (submitted on June 2);  2- Spill prevention along the effluent pipeline corridor to be addressed during the detailed design phase

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10.	Development of alternate strategies to manage saline groundwater contacted to the mine	TMAC to direct groundwater to TIA until alternate toxicity test suitable for saline groundwater conditions is introduced by ECCC and ECCC to make best efforts to find alternate toxicity test	TMAC/ ECC		ID# EC- (supplement)	Memo: DNP- WL Amendment – Interim Water Management Plan, on February 11 2016. Description of an interim strategy to manage saline groundwater until the toxicity testing protocol amendments to the Metal Mining Effluent Regulation (MMER) are complete
11.	Development of monitoring locations, parameters and overall aquatic effects monitoring program	Regarding development of the Aquatic Monitoring Framework (AMF): a. Invite Parties, including the KIA, ECCC and INAC, to participate in the AMF Working Group. TMAC to send out invitations by <b>Feb 14</b> . Proposed meeting date: <b>week of Mar 14</b>	TMAC/ KIA, ECCC, INAC	Invitations sent by – February 14 Meeting date – Week of March 14	ID# EC-1 ID# EC-2 ID# EC-8 ID# KIA-12 ID# KIA-6 ID# KIA-8	First AMF meeting was held on March 15. Water Monitoring of RB to be addressed in the EEM. AEMP to address the freshwater monitoring.  The revised version of AEMP to include: TIA Water Quality Monitoring, list of parameters and frequency of monitoring, monitoring requirements for DL water and ice levels and outflow discharge levels and determine thresholds beyond which additional mitigation measures must be taken to avoid serious harm to fish
12.	Development of monitoring locations, parameters and overall aquatic effects monitoring program	b. Provide an outline of the AMF in its preliminary form in advance of submissions for the Technical Hearing <b>on or before Mar 14, 2016;</b>	TMAC/ KIA, ECCC, INAC	On or before March 14		
13.	Development of monitoring locations, parameters and overall aquatic effects monitoring program	c. Ensure that the AMF includes monitoring the quality of the TIA and groundwater discharges and the waters of Roberts Bay for non CCME and MMER parameters.	TMAC/ KIA, ECCC, INAC	Prior to completion of AMF		
14.	Development of monitoring locations, parameters and overall aquatic effects monitoring program	d. Through the Working Group, establish the list of parameters and frequency of monitoring that will	TMAC/ KIA, ECCC, INAC	Prior to completion of AMF		

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		support the objectives of the monitoring program.				TMAC's submitted 2AM-DOH1323 Doris AEMP and SNP revisions on June 1. The Plan was discussed during the week of June 7 meetings in Iqaluit. Plan currently under review until June 22.
15.	DFO requires clarification of footprint due to reductions in water level of Doris Lake	Calculate the area of potential drawdown beyond the natural range of ice	TMAC/ DFO	Completed	ID# DFO 3.2.1 ID# KIA-13	
16.	Monitor water levels in Doris Lake and outflows to determine whether serious harm to fish occurs	Revisit Aquatic Monitoring Framework with working group to determine monitoring requirements for Doris Lake water and ice levels and outflow discharge levels and determine thresholds beyond which additional mitigation measures must be taken to avoid serious harm to fish	TMAC/ DFO	Working Group meeting in Q1, 2016, Revised AMF in Q4, 2016	ID# DFO 3.2.3	Monitoring of Water levels in DL included under the 2AM-DOH1323 Doris AEMP and SNP revisions submitted on June 1 and currently under review
17.	Determine whether serious harm to fish will occur downstream of Doris Lake due to reductions in discharge	Evaluate pathways of effects for reduced flow conditions following field work in Doris Creek and little Roberts Lake outflow in summer of 2016; Data and a report to DFO in Q4, 2016	TMAC/ DFO	Report submitted in Q4 2016	ID# DFO 3.2.1	This issue to be discussed under the DFO regulatory process
18.	Demonstrate effluent discharge to Roberts Bay will not cause harm to marine life	TMAC commits to provide a technical memorandum of the near field mixing model of marine CCME water quality parameters.	TMAC/ ECCC, KIA	TMAC to provide by 29-Feb  ECCC & KIA to	ID# EC-3 ID# KIA #6 ID# KIA #8 ID# KIA #12	Resolved – as per May Meeting

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				provide review by 14-Mar		
19.	Demonstrate effluent discharge to Roberts Bay will not cause harm to marine life	TMAC commits to providing 3-dimensional hydrodynamic modeling that simulates the far field dispersion of the most sensitive CCME parameter in Roberts Bay.	TMAC/ KIA	TMAC to provide by 29-Feb  KIA to provide review by 14-March	ID# KIA #6 ID# KIA #8 ID# KIA #12	Completed as per May 18 Meeting
20.	Improving accuracy of effluent quality modelling through sampling and analysis using lower detection limits for free cyanide, mercury and selenium	TMAC commits to provide an updated sensitivity analysis memo which includes the results of the base case and sensitivity analysis for Doris Creek at TL-3	TMAC/ KIA, ECCC	TMAC to provide 29- Jan  ECCC & KIA to review 5- Feb	ID# ECCC-4 ID# ECCC-5 ID# KIA 4 ID# KIA-5 ID# KIA-6 ID# KIA- 11B	Memo: Document P6-10b, Water and Load Balance Model – Results of Sensitivity Analysis for TIA and Doris Creek, SRK dated Jan 28 2016.  ECCC is ok with the document , email on February 4, 2016
21.	Improving accuracy of effluent quality modelling by refining inputs	TMAC commits to providing a memo outlining the concentration of various parameters at the mill mixing box comprising TIA water, groundwater and a mixture of TIA and groundwater.	TMAC/ KIA, ECCC	TMAC to provide by 3-Feb  ECCC & KIA to review by 8-Feb	ID# KIA 11C ID# ECCC-2 ID# ECCC-4	Resolved: TMAC's Document P6-10b, Water and Load Balance Model – Results of Sensitivity Analysis for TIA and Doris Creek, dated Jan 28 2016.  ECCC is ok with the document , email on February 4, 2016
22.	Water and Load Balance Model: For exposed tailings beaches, provide the basis for the selection of	TMAC provided sensitivity analysis of the water load balance using the 75 percentile for	TMAC/ INAC	27-Jan	ID# INAC TC4	Resolved: TMAC's Document P6-10b, Water

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	the median humidity cell test release rates and demonstrate that this is appropriate (conservative) for both operations and post-closure	background concentrations and other input sources  INAC to provide direction on resolution of the issue	INAC/ NWB	3-Feb		and Load Balance Model – Results of Sensitivity Analysis for TIA and Doris Creek, dated Jan 28 2016.  EC is ok with the document, email on February 4, 2016
23.	Ground Water Management Plan	A detailed groundwater management plan (GMP) consistent with the agreed upon outline submitted by INAC to TMAC in January 2016. It should also include a discussion on the underground disposal of hydrocarbon impacted waste rock and the ground water quality Final draft for approval with the issuance of the licence	TMAC/ NWB	1 June	NIRB Hearing	The GWMP to include GW quality monitoring (May 18) TMAC's Doris GroundWater Management Plan submitted on June 1, currently under review
24.	Interim Dike filter design tradeoff study	The Interim Dike filter design tradeoff study and detailed design of the selected filtering method to be submitted in June, distributed for review and discussed by interested parties prior to the Water Licence Public Hearing; final draft should be available before the issuance of the licence	TMAC/ NWB	In June	NIRB Hearing	To be submitted in June and distributed for review prior to the Public Hearing, (INAC, May 20 2016 email)

References:

## **2AM-DOH1323 Commitments List**

- 1) Nunavut Water Board Technical Meetings Commitment List
- 2) NIRB Public Hearing Conference
- 3) Meeting in Iqaluit, Minutes May 18
- 4) Meetings in Iqaluit week of June 6, 2016
- 5) Memo: Response to EC IR #10 – Closure Water Management – UPDATED to Reflect the Alternate Water Management Strategy of Discharging High NaCl Concentration (>10,000 mg/L) Mine Water to the TIA, SRK, February 3, 2016
- 6) Memo: Addendum to Document P5-2 – Interim Closure and Reclamation Plan, SRK, February 3, 2016
- 7) INAC's letter, Re: Amendment Application No. 1 to Nunavut Water Board Water Licence No. 2AM-DOH1323. Status of Indigenous and Northern Affairs Canada Comments: INAC IR10; INAC IR12; INAC IR13; INAC IR16; INAC TC3; and INAC TC4 on February 3, 2016
- 8) Email ECCC Review of Water and Load Balance Document, February 4, 2016
- 9) 2AM-DOH1323 Doris Tailings Impoundment Area Operations, Maintenance and Surveillance Manual
- 10) Indigenous and Northern Affairs Canada, letter Re: Doris North - 2AM-DOH1323 - Follow-up to May 18, 2016 NWB teleconference, on June 1, 2016
- 11) Memo: Doris North Project Water Licence Amendment – Interim Water Management Plan, SRK, February 11, 2016
- 12) ECCC letter: Hope Bay Doris North Gold Mine Project – Acute Lethality Testing under the MMER –uses of saline tolerant species, on December 23, 2015. Acknowledged by NWB on January 8, 2016.
- 13) Memo: Document P6-10b, Water and Load Balance Model – Results of Sensitivity Analysis for TIA and Doris Creek, SRK dated Jan 28 2016.
- 14) 2AM-DOH1323 Doris AEMP and SNP revisions, submitted on June 1, 2016
- 15) 2AM-DOH1323 Doris Groundwater Management Plan, submitted on June 1, 2016
- 16) DFO's email comments on May 18 Meeting Minutes, May 20, 2016
- 17) INAC's email comment on May 18 Meeting Minutes, May 20 2016
- 18) TMAC's email comments on May 18 Meeting Minutes, May 26, 2016