



Water Resources Division  
Nunavut Regional Office  
Iqaluit, NU X0A 0H0

*Your file - Votre référence*  
2AM-BOS---- & 2AM-DOH1323

October 23, 2018

*Our file - Notre référence*  
CIDM#1230029

Ida Porter  
Licensing Administrator  
Nunavut Water Board  
Gjoa Haven, NU X0B 1J0

**Re: Crown-Indigenous Relations and Northern Affairs Canada's request to  
withdraw our comments on TMAC Resources Inc.'s draft 2AM-BOS---- and  
2AM-DOH1323 amendment #2 water licences for phase 2 of the Hope Bay  
Project**

Dear Ms. Porter,

On October 12, 2018, Crown-Indigenous Relations and Northern Affairs (CIRNAC) submitted comments on TMAC Resources Inc.'s proposed black line of the Doris Type A water licence for the Madrid-Doris amendment and proposed framework for new Boston Type A water licence.

Upon further review, CIRNAC realizes that some of the comments made in the submission go beyond what is required for the purpose of reviewing a draft licence provided by the proponent. CIRNAC therefore requests that our comments from October 12<sup>th</sup> be removed from the public registry and replaced by the attached revised submission.

Regards,

Sarah Forté  
Water Management Specialist



## **Memorandum**

To: Ida Porter, Licensing Administrator, Nunavut Water Board

From: Sarah Forté, Water Management Specialist, Water Resources Division, INAC

Date: October 23, 2018

Re: Crown-Indigenous Relations and Northern Affairs Canada's revised comments on TMAC Resources Inc.'s draft 2AM-BOS---- and 2AM-DOH1323 amendment #2 water licences

Applicant: TMAC Resources Inc.  
Project: Hope Bay Phase 2  
Region: Kitikmeot

---

Comments and recommendations are provided for the Board's consideration pursuant to Crown-Indigenous Relations and Northern Affairs Canada's (CIRNAC) mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Indian Affairs and Northern Development Act*.

### 2AM-DOH1323 AMENDMENT #2 PROPOSED LICENCE

1. *Winter roads (Part A Item 1 additional scope for amendment #2, Part E Item 1, and Part F Item 4):* The only reference to winter roads CIRNAC found in the applications documents are to allow for construction of the Madrid-Boston all-weather road. CIRNAC does not recollect any discussion on the general use of winter roads throughout the application process, or mention of such roads in the management plans. CIRNAC recommends that winter roads not be included in any renewed licence as they have not been assessed.
2. *Scope from amendment #1 (Part A Item 1 additional scope for amendment #1):*
  - TMAC has struck out "subaerial" as the method for deposition of flotations tailings in the tailings impoundment area (TIA). CIRNAC does not understand why this precision would be removed unless TMAC is planning to use alternative methods, and since none have been discussed, CIRNAC recommends keeping the precision.
  - The clause about TIA discharge prior to tailings deposition could be removed. It is no longer applicable since tailings have been deposited in the TIA.
  - The clause pertaining to the Metal Mining Effluent Regulations could be updated to refer to the Metal and Diamond Mining Effluent Regulations.

3. *Scope of amendment #2 (Part A Item 1 additional scope for amendment #2):*
- A mill with a 2400 tonne per day capacity is part of the scope for amendment #2. It would help clarify that this mill is distinct from the one in the scope for amendment #1 to refer to this as the Madrid North mill, and the other mill in as the Doris mill.
  - TMAC has included “*underground and surficial mining methods*” to the scope of amendment #2. CIRNAC recommends removing this clause because underground mining is already in the scope of the initial licence (“*The extraction of portal development rock, waste rock and ore from the underground*”) and surficial mining was not discussed during this application process.
4. *Enforcement (Part A Item 3):* This item describes enforcement of the licence. Since it is in the Act and therefore a default for all water licences, CIRNAC recommends removing the item.
5. *Incorporation of type B licence (Part B Item 1):* TMAC has added the scope of amendment #2 application and the clause “*Upon such time that the decision is made by the licensee to enter into production at Madrid North and South, the scope of 2BB-MAE1727 will be incorporated into this licence.*” CIRNAC agrees that the scope of licence 2BB-MAE1727 should be integrated into an amended 2AM-DOH licence, and believes this should be done with this amendment since the changes have been discussed and this would avoid another amendment process. Most of the scope is already incorporated since most of the mining and water management methods are no different for a bulk sample and production mining. The difference CIRNAC noted was the authorized water sources.

However, as stated in CIRNAC’s written submissions, CIRNAC is of the opinion that the bulk sample and production licences should not apply concurrently. From the wording TMAC has added, several things are not clear:

- Whether the trigger, TMAC is proposing, requires the decision to enter production at both Madrid North and Madrid South;
- If the 50 000 tonne ore sample limit for each site would be adhered to;
- If the licensee would be limited to the terms and conditions of the type B licence until production was entered;
- How the decision by the licensee to enter production would be shared, if a version of the proposed clause were kept.

These questions are amongst several that need to be clear and explicit in an amended licence.

6. *Implementation timetable (Part B Item 5)*: TMAC has reworded the original item to remove the requirement for submitted plans to include a proposed timetable for implementation. Proposed timetables are important guidance that assist in planning, therefore CIRNAC recommends keeping the reference to a proposed timetable.
7. *Management plans (Part B Item 6)*:
- TMAC has reworded the original item to allow for plan implementation 60 days following plan submission if the Board has not yet approved the plan. CIRNAC disagrees with the suggested wording because it does not allow for the Board not to approve a plan. Additionally, some plan reviews could take longer than 60 days, as is evidenced by Part L item 8, which requires a Final Closure and Reclamation Plan to be submitted 12 months prior to planned closure.
  - In the list of plans submitted with the licence:
    - (e.) Hope Bay Project Boston Water Management Plan (December 2017) may not be necessary, as it pertains more to the 2AM-BOS--- application.
    - (m.) The latest version of the Hope Bay Project Aquatic Effects Monitoring Plan CIRNAC is reviewing is dated October 2018, rather than April 2018, and this should be updated.
8. *Future update to management plans (Part B Item 7)*: TMAC is proposing to remove this item, which requires them to update certain management plans. Since TMAC has committed to updating certain management plans at later project milestones, this should be incorporated in an amended licence. These include the Non-Hazardous Waste Management Plan and the Doris-Madrid Water Management Plan.
9. *Timing of plan revisions (Part B Item 9)*: TMAC is proposing to revise the wording for submittal of plan revisions from “*shall*” to “*may*”, and they have added a clause about submitting revisions: “*or in a revised plan, as appropriate*”. CIRNAC is of the opinion that submitting a revised plan in light of changes to project status, operation and/or technology should remain an obligation rather than a possibility and therefore recommends keeping “*shall*”. CIRNAC appreciates that sometimes submitting a revised plan instead of an addendum is more effective, but are not sure if this is the intention of the clause added by TMAC. CIRNAC can also see merit in providing plans at times of the year other than with the annual report, if this was the clause’ intention. However, if this liberty is granted, CIRNAC recommends there be a limit on the frequency of plan revisions since it

is difficult to have effective long term mitigation strategies if plans are changing every couple of months and it demonstrates lack of forethought.

10. *French translation requirements (Part B Item 14)*: TMAC is proposing to remove the requirement to translate executive summaries of reports into French. The Act sets out language requirements which cannot be altered through a water licence.
11. *Notification of changes in operating plans or project conditions (Part B Item 16)*: The current licence requires the licensee to notify the Board 60 days prior to changes in operating plans or project conditions. TMAC propose adding the clause “*If possible, ...*”. CIRNAC disagrees with the addition because it removes the licensee’s responsibility without justification. It could also lead to confusion, since it does not define what efforts are necessary before notification is deemed impossible.
12. *Licence assignation (Part B Item 19)*: This item states the licence is assignable, as described in the Act. Since it is in the Act and therefore a default for all water licences, CIRNAC recommends removing the item.
13. *Update to Closure and Reclamation Plan and associated reclamation cost estimate (Part C Item 5, Part L Items 7 and 8)*: The licence presently requires a updated Closure and Reclamation Plan (CRP) and reclamation cost estimate two years following approval of the amended licence and 12 months prior to closure. Given the proposed term of the licence, CIRNAC recommends that the CRP be updated every five years to integrate the growing body of site specific knowledge gained in the course of production and any applicable new knowledge, technologies and experience. A requirement for CRP updates at regular intervals is consistent with what is done in other jurisdictions.
14. *Revision of security (Part C Items 7, 8 and 9)*: The current licence treats changes in the amount of security as an amendment. TMAC propose changing the wording to replace “*amend*” with “*review*” or “*reduction or increase*”. CIRNAC notes that the use of “*reduction or increase*” removes the possibility of a re-distribution of security to be held by different parties or in different phases. CIRNAC’s is of the opinion that any change to security needs to be processed as an amendment to ensure a clear process where all interested parties can participate and the minister has the opportunity to consider the decision taking into account broader interests.
15. *Fill characteristics (Part D Items 1 and 22)*: For Part D Item 1, TMAC is proposing to replace the description of authorized fill from “*free of contaminants*” to “*in accordance with approved plans*”. They also propose removing Part D Item 22 because it is redundant. In the current licence Item 22 further describes authorized fill as “*has been demonstrated by appropriate geochemical analyses*

*to not produce Acid Rock Drainage and to be Non-Metal Leaching and free of contaminants.*” CIRNAC agrees with TMAC that one of the two items is redundant. CIRNAC recommends keeping the original wording of Item 22 as it is clearer and makes the Inspectors’ work simpler by removing the necessity of finding which plans are appropriate and which are their current approved versions.

16. *Chemicals entering water bodies (Part D Item 2)*: The current licence requires the licensee “*to prevent any chemicals, fuel or wastes associated with the undertaking from entering any water body*” and TMAC is proposing adding “*non-compliant*” before chemicals. CIRNAC does not support this addition since compliant chemicals have not been defined, and it could lead to confusion.
17. *In-stream activity (Part D Item 6)*: TMAC propose modifying this item regarding in-stream activity by: (1) restricting it to fish-bearing streams, (2) broadening the period of possible activity to include winter as well as the low water period presently in the licence, and (3) allowing activities during periods approved by Fisheries and Oceans Canada. CIRNAC does not have concerns with the addition of the winter period for in-stream activity, if other agencies are in agreement. It is CIRNAC’s understanding that work during these periods can reduce the overall impact to the stream system. CIRNAC does have an issue with restricting the application of limits on in-stream activity to fish-bearing streams. Even when not fish-bearing, streams contribute to the ecosystem, and can feed into streams that are fish bearing. The protection and management of freshwater resources is not restricted to resources that are fish-bearing. CIRNAC recommends not including TMAC’s proposed change.
18. *Authorized water volumes (Part E Item 1)*: The total quantity of water from all sources TMAC is proposing is 2 368 000 m<sup>3</sup>/year. This does not match TMAC’s April 2018 response to CIRNAC’s information request #9, which stated the requested water volume was 1 930 000 m<sup>3</sup>/year from Doris Lake plus 44 000 m<sup>3</sup>/year from Windy Lake, nor does it match volumes on their application form. Additionally, if the scope of licence 2BB-MAE1727 is integrated into this water licence, account should be made for 5 m<sup>3</sup>/day of water for domestic use from Patch and/or Windy Lakes and 290 m<sup>3</sup>/day from sources proximal to drilling targets as outlined in TMAC 2BB-MAE application. CIRNAC recommends the water licence authorize water use volumes as discussed at the technical meeting, with the addition of the 2BB-MAE authorization.
19. *Inspections of water management structures (Part F Item 2)*: This term reads “*the licensee shall carry out regular inspections of all water management structures ...*”. It is not evident what is meant by “*regular inspections*” and may be inspections at regular intervals. CIRNAC recommends this be clarified.

20. *Notification prior to discharges (Part G Item 1)*: TMAC is proposing to reduce the notification period prior to planned discharge from any facilities from 10 days to 3 days. CIRNAC appreciates 10 days can be a long period to integrate into operations, however 3 days is insufficient notice for an Inspector to get to site, should they want to possibly sample the discharge. CIRNAC recommends using a notification period of 5 days.
21. *Discharges to land (Part G Item 2)*: The term in the current licence starts with “*the licensee shall perform all land applied discharges in a manner ...*”. For greater clarity, CIRNAC recommends changing this to “*the licensee shall perform all land applied discharges of a waste that may enter water in a manner ...*”.
22. *Discharge of water from sumps (Part G Items 23b, d and f)*: These terms state that compliant water from sumps “*may be discharged to the tundra or as designated by an Inspector.*” It is not evident if the last part of this clause means the Inspector can instruct a licensee to discharge water to places other than the tundra. CIRNAC recommends this item be clarified.
23. *Assessing water quality model (Part G Item 34)*: The current licence requires the licensee to “*input average monthly water quality, hydrology and climate monitoring data into the water quality model and perform the following assessment ...*”, on a monthly basis during operations and annually during construction or care & maintenance. TMAC proposes removing the requirement to do the assessment. CIRNAC is of the opinion that entering new data into a model is pointless unless assessment of the results and the differences with the previous model version is made. An assessment is necessary and CIRNAC recommends keeping the requirement to do one. However, CIRNAC would not be against modifications to the frequency or some of the specific steps of the assessment if the aim is still met.
24. *As-built drawings of modifications (Part H Item 1)*: The current licence requires the licensee to submit as-built plans and drawings of modifications “*within 90 days of completion of the modification*”, and TMAC is proposing to add “*or submission with the Annual Report.*” This means the licensee would have almost a year to submit constructions plans for work completed at the beginning of the year. CIRNAC recommends keeping the 90 day requirement since Inspectors may need to refer to the drawings during site visits and the plans may provide relevant information when considering other proposed modifications or changes to plans.
25. *Spill reporting (Part I Items 5, 6 and 7)*: TMAC proposes replacing two items which require the licensee to report any spill by one which references the *Spill Planning and Reporting Regulations*. CIRNAC recommends following TMAC’s proposal because it reflects regulated spill reporting requirements more closely

than what is in the current licence. Adding the spill line's phone number would ensure it was readily visible.

26. *Doris Creek monitoring (Part J Item 2)*: TMAC proposes removing the requirement to monitor flow on Doris Creek. This item was added during amendment #1 to the licence following a commitment made to Fisheries and Oceans Canada and could help detect changes to creek flow caused by disturbances to the groundwater regime caused by the mining and as well as by fluctuation in Doris Lake levels caused by abstraction. CIRNAC recommends keeping this item.
27. *Closed mine status (Part L Item 1, Schedule A)*: TMAC proposes removing Part L Item 1, the obligation to notify the Board 60 days prior to achieving recognized closed mine status and removing the associated definition from Schedule A. This advanced notification could help the Board and interested parties plan and schedule next steps for the water licence and therefore CIRNAC recommends the item and definition be kept in an amended water licence.
28. *Notification of project phase changes (Part L Item 4)*: The licensee is required to notify the Board 30 days prior to changes in project phase. CIRNAC requests that the licensee be required to notify the Inspector as well.
29. *Standards for reclamation efforts (Part L Items 15, 16, 17 and 19)*: TMAC proposes adding “to the extent practicable” to four of the items describing work to be done during reclamation. Such an addition could lead to confusion because it does not specify who is judging what efforts are practicable. If more detail is warranted, CIRNAC would recommend adding “to the satisfaction of the Inspector”, since they will be determining if a site is adequately reclaimed.
30. *Plan references in definitions (Schedule A)*: The current licence references specific drawings when defining facilities and TMAC proposes removing the references in many instances. The drawing references are helpful for Inspectors and staff reviewing modifications as it helps them find exactly what construction drawings were discussed in the application. CIRNAC recommends keeping these details and updating them to include the drawings of the future Madrid facilities. The definitions in question are: Beach Laydown Area, Float Plane Dock, Fresh Water Intake, Explosives Mixing and Storage Facility, Fuel Storage and Containment Facility, Landfarm, North Dam, Pollution Control Pond, Quarry, Reagent and Cyanide Storage Facility, Reclaim System, Sedimentation Pond, South Dam, Spillway, Temporary Waste Rock Pad, Temporary Ore Storage Pad, and Domestic Wastewater Treatment Plant.
31. *Modification definition (Schedule A)*: The definition of modification in the current licence specifies that it “does not include expansion”. TMAC would like to see this



restriction removed. While CIRNAC appreciates that a small increase to the area or capacity of a work does not usually result in effects that require updates to management plans and mitigation measures, CIRNAC has seen proponents propose a series of incremental expansions, each one small enough not to trigger a thorough review when considered individually. CIRNAC therefore recommends that the definition of modification exclude expansion.

32. *Monitoring requirements (Schedule J Table 2)*: The list of monitoring stations would have to be expanded to include stations at the Madrid sites, and the station descriptions should be expanded to help differentiate stations. For example, ST-1 is described a “Sedimentation Pond” and using “Doris Sedimentation Pond” instead would allow us to distinguish it from the Madrid North Sedimentation Pond and Madrid South Sedimentation Pond.

#### 2AM-BOS---- PROPOSED LICENCE

Many items in this draft are identical to the 2AM-DOH amendment #2 licence draft and therefore the same comments apply. When this is the case, CIRNAC refers back to the comment number in the previous section.

33. *Scope (Part A Item 1)*:

- The industrial process water treatment plant is not included in the scope. Since it is an important water management structure and the sewage treatment plant is included, CIRNAC recommends including it in the list of facilities.
- As stated in CIRNAC’s written submissions, CIRNAC recommends integrating the 2BB-BOS1727 water licence into a 2AM-BOS licence. Most of the activities of the bulk sample licence are already covered here and those which aren’t, such as prospecting, are covered under the 2BE-HOP1222 held by the licensee. CIRNAC also recommends including clauses to describe the transition and integration between licences.

34. *Winter roads (Part A Item 1 scope, Part E Item 1, and Part F Item 3)*: See comment 1.

35. *Enforcement (Part A Item 3)*: See comment 4.

36. *Licence assignment (Part B Item 6)*: See comment 12.

37. *Plan approvals (Part B Items 9 and 11)*:

- These two items could likely be consolidated.
- See the first bullet of comment 7.
- In the list of plans submitted with the licence:

- (o.) The latest version of the Hope Bay Project Aquatic Effects Monitoring Plan CIRNAC is reviewing is dated October 2018, and this should be included.
  - The Boston Sewage Treatment Operations and Maintenance Management Plan Plans was reviewed and should be included in the list.
  - The Hope Bay Project Water and Ore/Waste Rock Management Plan for Boston Site was reviewed and should be included in the list.
38. *Update to management plans (Part B Item 13):* TMAC has committed to updating the Non-Hazardous Waste Management Plan and CIRNAC recommends it be captured in the licence.
39. *Confirmation of security held by the Kitikmeot Inuit Association (Part C Item 1a):* The proposed wording puts the responsibility of providing evidence of security held by the Kitikmeot Inuit Association (KitIA) on the licensee. Since this evidence would not be acceptable without confirmation from the KitIA, CIRNAC recommends that this responsibility be given to the KitIA.
40. *Updates to Closure and Reclamation Plan and associated reclamation cost estimate (Part C Items 5 and 8, Part L Items 4 and 6):*
- See comment 13.
  - Part C Item 8 touches on the part of comment 13 requiring updates to the cost estimate. CIRNAC is of the opinion that setting out a schedule is helpful for all parties.
  - Part C Item 5 and Part L Item 6 are essentially the same. CIRNAC recommends removing one of the two.
  - CIRNAC recommends the licence specify a date by which an Interim CRP must be developed from the Conceptual CRP.
41. *Revision of security (Part C Items 7 and 8):* The wording in the draft licences sometimes avoids the use of the term “*amendment*” when referring to changes in security by using “*revision*” or “*increase or decrease*”. All changes to security are amendments to the licence, whether they are the amount, the parties holding security or the distribution between phases. CIRNAC recommends that this be made clear in the licence and the word “*amendment*” be included in Item 8.
42. *Chemicals entering water bodies (Part D Item 3):* See comment 16.
43. *In-stream activity (Part D Item 6):* See comment 17.

44. *Construction summary report (Part D Items 8 and 20)*: Item 8 prescribes a date for producing a construction summary report and refers to Schedule D for the report's content. Item 20 describes the report's content. CIRNAC recommends combining the two items or grouping them to improve clarity.
45. *Remarkable rainfall events (Part D Item 15)*: This item prescribes extra monitoring during and after remarkable rainfall events without defining remarkable rainfall. CIRNAC recommends using more specific wording such as a 1 in X year rainfall event or something of this nature.
46. *Management plan for sewage treatment (Part D Item 17)*: Two management plans were reviewed for sewage treatment at Boston and CIRNAC recommends they both be referenced. They are the Hope Bay Domestic Wastewater Treatment Management Plan and the Boston Sewage Treatment Operations and Maintenance Management Plan.
47. *Quarry seepage monitoring (Part D Item 18)*: This item prescribes quarry seepage monitoring according to the Hope Bay Quarry Management and Monitoring Plan. Part C Item 21 of the 2AM-DOH licence requires reporting of the results and prescribes the information to be provided. CIRNAC recommends a similar item be added to this licence. The Quarry Plan assumes it will be because it references instructions in the licence.
48. *Monitoring underground backfill (Part D)*: The placement of all waste rock underground during operations is a critical part of the site's closure plan, which presumably motivated the addition of Part D Item 10 in the 2AM-DOH licence. CIRNAC recommends including a similar term in this licence.
49. *Authorized water volumes (Part E Item 1)*: The draft includes authorization for use of water from sources proximal to drill targets without specifying the volume. CIRNAC recommends including a daily limit.
50. *Inspections of water management structures (Part F Item 1)*: See comment 19.
51. *Notification prior to discharges (Part G Item 1)*: See comment 20.
52. *Discharges to land (Part G Item 2)*: See comment 21.
53. *Sewage treatment plant effluent criteria (Part G Item 3)*: The draft licence proposes the same sewage treatment plant effluent discharge criteria for both land and lake discharges. CIRNAC recommends revising the discharge criteria for Aimaokatalok Lake since it enters water directly and doesn't have the benefit of filtering through the tundra.
54. *Changes to geochemical confirmatory sampling (Part G Items 4 and 6)*: These two items are identical so one can be removed.

55. *Discharge of water from sumps (Part G Items 11b, d and f)*: See comment 22.
56. *Discharge criteria for surge pond and industrial process water treatment plant (Part G)*: The draft licence does not include any discharge criteria for either the surge pond or the industrial water treatment plant. CIRNAC recommends such criteria form part of the licence and that they include all parameters regulated in the ponds feeding into the surge pond as well as salinity and contaminants from explosives and the milling process. The maximum allowable concentrations need to take into account the water is directly discharged into Aimaokatalok Lake.
57. *Tailings management (Part D or G)*: CIRNAC recommends the licence state that tailings must be managed according to the Boston Tailings Impoundment Area Operations, Maintenance, and Surveillance Manual.
58. *Notification of project phase changes (Part L Item 3)*: See comment 28.
59. *Plan references in definitions (Schedule A)*: As described in comment 30, references to specific plans in infrastructure definitions is helpful and CIRNAC recommends doing so in this licence.
60. *Annual report requirements (Schedule B)*: The proposed schedule B outlining the contents of the annual report is the same as for the 2AM-DOH licence. CIRNAC recommends adapting it to the Boston licence including:
- removing reference to tailings supernatant;
  - changing the Tailings Impoundment Area to Tailings Management Area;
  - removing reference to flows at station TL-2 and Doris Lake levels.

## **Security**

Neither draft water licence has details on the amount of security to be posted or how this might possibly be split into phases. CIRNAC is still in discussions with TMAC and the KitlA about reclamation estimates so CIRNAC has no details to provide at this time. At the public hearing CIRNAC will be able to provide CIRNAC's recommendations on this topic. It is important that accurate and specific measures on security be captured in the water licence.

## **General comments about draft water licence reviews**

CIRNAC recognizes that the Board has a long experience of creating water licences. CIRNAC also notes that in the last two years, proponents have begun presenting draft water licences for consideration. The Board has circulated these draft water licences to interested parties for comments, CIRNAC appreciates the opportunity to provide feedback and support continuing the practise.

CIRNAC would like to have more substantive discussions with the Board and other interested parties on the process and the content and structure of water licences. CIRNAC recognizes that such discussion is outside the scope of the specific exercise for the Hope Bay licences, but see it as necessary.