

YUKON TERRITORY WATER BOARD
REASONS FOR DECISION
WATER USE LICENCE QZ99-045
SA DENA HES OPERATING CORPORATION

The Yukon Territory Water Board ("the Board") has concluded deliberations pertaining to application QZ99-045, submitted by the Sa Dena Hes Operating Corporation ("the Licensee"), for a Type A water use licence for a quartz mining undertaking. The licence is a renewal of water use licence QZ97-025.

Notice of public hearing was provided in accordance with the requirements of the Yukon Waters Act. In response, the Board received interventions from Indian Affairs and Northern Development ("DIAND"), Environment Canada ("EP") and Government of Yukon ("YTG"). YTG expressed no concerns with the application. None of the interveners requested a public hearing, and the hearing was cancelled.

Prior to making the licencing decisions, a review of the application pursuant to the requirements of the Canadian Environmental Assessment Act ("CEAA") was undertaken by DIAND Water Resources Division. The determination was as specified in Section 20 (1) (a) of the Act; that is, that taking into account the implementation of any mitigation measures that the responsible authority considers appropriate, the project is not likely to cause significant adverse environmental effects and may proceed. All of the recommendations contained in the CEAA screening report are reflected in the licence.

In making the licencing decisions pertaining to the application, the Board took into account the information contained in the application and the information and recommendations contained in the interventions.

These reasons address only those areas where the licence differs from the application and/or the recommendations of the intervener, or where the Board determined that additional elaboration would be helpful.

Security

The initial security of \$5,032,000 specified in the licence has been determined by the Board based on the \$5,446,000 recommended by DIAND, less the one-year care and maintenance costs of \$250,000 included by DIAND, and the difference between the 15% contingency included by the Licensee and the 20% Contingency included by DIAND. The Board considers that care and maintenance costs have been double accounted in the estimates and that a contingency of 15% is appropriate for this level of estimate.

DIAND requested that the amount of the security be updated annually according to government inflation indices. The Board determined that this would be impractical, since it would likely require an annual amendment to the licence. Instead, the amount of the security should reflect

the costs of decommissioning and reclamation, as estimated from time to time. In this case, within four years of the effective date of the licence, or within two years following the resumption of operations, whichever comes first, the Licensee is required to update the Decommissioning Plan, including the estimated costs of decommissioning.

Submissions

DIAND requested that a number of items, including design drawings, specifications and quality assurance/quality control procedures for the construction of facilities or structures authorized by the licence be submitted to the Board at least 120 days prior to construction. The Board concluded that the appropriate length of time will depend on the nature of the facility, and 120 days may not be required in all cases.

Accordingly, the Board has simply required the Licensee to submit the information to the Board without specifying a time. The Board will review the information submitted and will determine if a period for public review is warranted. If the Board determines that a review period is warranted, then the Board will establish the length of the review period, including an allowance for its own deliberations. It is likely that this period would not exceed 120 days, unless a public hearing is required. If the Board's deliberations determine that a public hearing should be held to review a submission, then the Board will notify the Licensee accordingly. The Licensee is not authorized to proceed with construction until such time as the public hearing has been convened and the Board has concluded its deliberations.

The Board recognizes that this approach creates uncertainty for the Licensee; however, if the Board determines that the submission is consistent with the application, then this process should not be lengthy. The licence contains a similar requirement for the submission of study plans, as well as decommissioning and reclamation activities required by the licence.

With regard to the requirement for submissions to be consistent with the application, the Board has included a requirement that such submissions be accompanied by a design report prepared and sealed by a Professional Engineer licenced to practice in the Yukon, and that the report contain a statement by the Engineer that the design is consistent with the Application. If the design is not consistent, then an application for a licence amendment may be required.

The previous licence referred to modifications of designs. The Board has clarified its intent regarding the scope and timing of the modifications.

Sewage Disposal

The previous licence (QZ97-025) contained a requirement for all sewage to be directed to a treatment plant, with the treated effluent then being directed to the tailings pond. The application did not indicate that the line exists, and the Licensee confirmed that the system was not actually constructed, but was replaced with an in-ground septic system. The licence reflects this change.

Instrumentation and Monitoring of Dams

The previous licence required the installation of two piezometers at each of three sites. The Licence has been modified to require continued monitoring of the piezometers that have been installed.

Study Plans

The licence requires submission of several plans. The Board's intent is that the study plan submissions will define the duration of the study and include appropriate schedules for reporting of the data and findings. Where the plan is continuing over a number of years, the Board expects that ongoing data reporting will be part of the annual reports.

Geochemical Assessment Program

The licence requires the Licensee to undertake a Geochemical Assessment Program to address several issues identified by DIAND and EP. The program is to include identifying and evaluating potential long-term impacts of portal discharges, tailings porewater chemistry, attenuation of zinc, lead and cadmium in the Main Zone 1380 Portal discharge, and maintaining unrestricted flows from the Burnick 1200 Portal and the Main Zone open pit after closure.

The Licensee objected to the recommendation contained in the CEAA screening report that consideration be given to using location DP7 as representative of the tailings performance. The licence requires that the study address the potential use of location DP7. The Board expects that, if the Licensee is aware of more appropriate location(s), then those locations will be identified.

If potential long term impacts are identified by the Geochemical Assessment Program, then the Licensee is required to develop and implement an impact mitigation plan.

Temporary and Permanent Closure

DIAND and EP recommended that Temporary and Permanent Closure should be clearly defined in the licence and DIAND submitted suggested definitions. The Licensee disagreed with DIAND's recommendation, saying that it should be the one to decide when Permanent Closure would occur, and suggested other definitions. The Board has established its own definitions for Temporary and Permanent Closure, and has required the Licensee to advise the Board when the project either is re-activated or enters another period of Temporary Closure. The Board has also defined that the project is to be considered to be in Temporary Closure at the effective date of the licence.

The Board is aware that circumstances beyond the control of the Licensee may necessitate considering a period of temporary closure that exceeds four continuous years after the effective date of this licence. The purpose of this licence is to use water for quartz mining purposes, not to remain in temporary closure indefinitely. To that end, the Licensee is required only to provide notice when it intends to exercise its right to mine and mill, or to suspend those activities. However, the Licensee is required to provide justification for prolonging temporary closure. If circumstances require that temporary closure should exceed four years, then it is not unreasonable to expect the Licensee to apply for an amendment to address that situation.

The licence requires the Licensee to submit an annual closure status report as well as a comprehensive report on the third anniversary of Temporary Closure. The trigger for entry into Permanent Closure is the fourth anniversary of Temporary Closure, except that if the Licensee does not carry out the maintenance activities specified in the licence as required during Temporary Closure, then the project will be deemed to have entered into Permanent Closure. The Licensee is required to begin implementing the Decommissioning Plan immediately upon entry into Permanent Closure. During the first three years of Permanent Closure, the Licensee is required to submit twice yearly status reports on the implementation of the Decommissioning Plan. DIAND recommended quarterly reports, but the Board determined that a report before the construction season, and one after, would be sufficient.

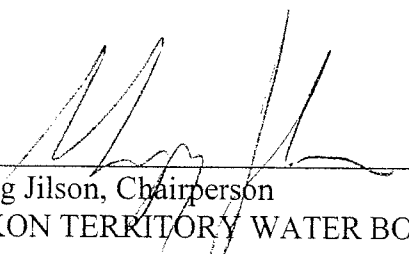
The Licensee is required to submit periodic updates to the Decommissioning Plan. Updates are deemed to be revisions of the plan when the Licensee is notified of that by the Board. The Board intends that an updated plan that does not involve any significant new work not already authorized in the licence would require little review, but that a significant new undertaking would not be authorized.

The updates to the Decommissioning Plan are required to consider changes to the Canadian Environmental Quality Guidelines, any relevant additional information that has been acquired through site monitoring; and the estimated costs of decommissioning. DIAND recommended

that the updates also consider developments in what it termed "Best Available Technology Economically Achievable". The CEEA screening used the term "best applicable technology". The Board was unable to establish suitable definitions for these terms and so the licence requires the Licensee to incorporate relevant advances in technology into the updates.

Dam Safety Reviews

The Licensee accepted the recommendation of DIAND for periodic dam safety reviews, but argued that the Sa Dena Hes Dam is in the Low Consequence Category according to the Canadian Dam Safety Guidelines and that the reviews should therefore be carried out every ten years rather than every five as recommended by DIAND. The Board determined that the dam may fit in the Low Consequence Category, but that the environmental consequences of a failure warrant a review every five years.



Gregg Jilson, Chairperson
YUKON TERRITORY WATER BOARD

November 19, 2001