

Record of Proceedings, Including Reasons for Decision

In the Matter of

Applicant COGEMA Resources Inc.

Subject Application for a Uranium Mine Operating Licence

Date August 30, 2001

1. Introduction

COGEMA Resources Inc. (CRI) of Saskatoon, Saskatchewan, has applied to the Canadian Nuclear Safety Commission (CNSC) for a renewal of its operating licence with an amendment to allow an increase in the production from the currently approved 6 million pounds (2,722,000 kilograms) U_3O_8 , (calcined yellowcake), per year to 8 million pounds (3,629,300 kilograms) U_3O_8 per year.

The McClean Lake Operation, located in the Athabasca region of northern Saskatchewan, is a uranium mine and mill facility and is currently licensed under UMOL-MINEMILL-McCLEAN.08/2001 which expires August 31, 2001.

The McClean Lake Operation facilities include the:

- Sue Mine Site;
- JEB Mill;
- JEB Tailings Management Facility (TMF);
- Sink/Vulture Treated Effluent Management System;
- JEB waste-rock storage areas; and
- ancillary and support facilities.

The proposed uranium mining and milling activities at the McClean Lake Operation include:

- mining Sue A, B and C pits;
- operating the JEB Mill and the JEB TMF for the disposal of tailings;
- operating the JEB Dewatering System and JEB Water Treatment Plant;
- operating the Sue Water Treatment Plant;
- operating the Sink/Vulture Treated Effluent Management System;
- backfilling the Sue C Pit with special waste from the JEB and Sue pits;
- possessing nuclear substances and devices;
- packaging and transport nuclear substances;
- handling and storing hazardous materials and disposing of hazardous wastes associated with the operations; and
- storing waste rock.

CRI has applied for a 5-year *Uranium Mine-Mill Operating Licence*.

The Commission considered, in this sequence,

- 1) results of the environmental assessment screening of the proposed project to increase the JEB Mill production limit, prepared pursuant to the *Canadian Environmental Assessment Act*;
- 2) the licence application.

2. Decision

The Canadian Nuclear Safety Commission, in making its decisions, considered information presented at a public hearing held on June 28, 2001 and August 9, 2001 in Ottawa, Ontario, which included information contained in an environmental assessment Screening Report.

Based on its consideration of the matter, as described in more detail in the following sections,

The Commission, pursuant to paragraph 20(1)(a) of the *Canadian Environmental Assessment Act*, decided that the project, taking into account the appropriate mitigation measures, is not likely to cause significant adverse environmental effects.

Furthermore,

The Commission, pursuant to section 24 of the *Nuclear Safety and Control Act*, issues a Uranium Mine-Mill Operating Licence to COGEMA Resources Inc., Saskatoon, Saskatchewan, for the McClean Lake Operation. The Uranium Mine Operating Licence UMOL-MINEMILL-McCLEAN.09/2005, is valid from September 1, 2001 to August 31, 2005 unless suspended, amended, revoked or replaced.

The Commission includes in the licence a production limit of 8 million pounds (3,629,300 kg) U_3O_8 per year. The Commission also includes the conditions of the previous licence for the McClean Lake Operation, and the following additional conditions recommended by CNSC staff:

- G4. the licensee shall submit a revised Preliminary Decommissioning Plan and Financial Guarantee to the Commission for approval prior to the mining of Sue A and B ore bodies; and
- G5. the licensee shall maintain the existing financial guarantee for decommissioning until the Commission accepts the financial guarantee resulting from licence Condition G4.
- EP3. the licensee shall notify the Commission within 24 hours of becoming aware that an Action Level specified in the Environmental Code of Practice has been reached.

3. The Public Hearing Process

The public hearing, conducted under the *Nuclear Safety and Control Act* and the *Canadian Nuclear Safety Commission Rules of Procedure*, was held in Ottawa, Ontario over two days; June 28, 2001 and August 9, 2001. The Commission received written submissions and heard oral presentations from CNSC staff (CMD 01-H18, CMD 01-H18.A, CMD 01-H18.A1 and CMD 01-H18.B) and COGEMA Resources Inc. (CMD 01-H18.1, CMD 01-H18.1A and CMD 01-H18.1B). The Commission also considered a written submission from Ms. Maisie Shiell (CMD 01-H18.2).

4. Issues and Commission Findings

4.1 Canadian Environmental Assessment Act - Screening Report

During the hearing the Commission sought clarification that the current environmental assessment considered only the milling of the currently authorized ore reserves, possibly over a shorter period of time than previously assessed. The Commission noted that any future proposals to mill ores from other locations, possibly increasing the mill life and the total release of contaminants to the environment, may require further environmental assessment under the *Canadian Environmental Assessment Act*.

In the Screening Report, CNSC staff concluded that the increased annual loading of major ions to the receiving surface water environment would not have a significant adverse effect on biota. On the basis of further information provided by the proponent and CNSC staff at the hearing, the Commission is satisfied that the instantaneous concentrations of ions in the effluents will be similar to those experienced and found acceptable during past operations, and that the environmental effects monitoring program will provide sufficient early warning of the potential for any significant effects in the aquatic environment.

An intervenor (CMD 01-H18.2) expressed the view that the environmental effects of the project are “uncertain”; and therefore that the Commission is required, pursuant to subparagraph 20(1)(c)(i) of the *Canadian Environmental Assessment Act*, to refer the project to the Minister for a referral to a mediator or a review panel. Upon consideration of the information presented in the Screening Report, and at the Commission hearing, the Commission considers that the likelihood and significance of adverse environmental effects that may be caused by the project has been determined with a degree of certainty appropriate for the Commission to draw conclusions on those effects under subsection 20(1) of the Act. Therefore, the Commission concludes that a referral to the Minister is not required as a result of uncertainty in the assessment.

With respect to the public consultation carried out for the purpose of the environmental assessment screening, the Commission sought clarification of the statement in the Screening Report which suggested that the public viewed the project favourably. The Commission was informed that individuals present at the consultation events had generally supported the possibility of fewer temporary layoffs at the mill as a result of the higher production limit.

The Commission is satisfied that the public had adequate opportunity to participate in the environmental assessment and that the level of public concern expressed does not warrant a referral of the project to the Minister for referral to a mediator or panel review pursuant to paragraph 20(1)(c)(iii) of the *Canadian Environmental Assessment Act*.

4.2 Radiation Protection, Safety, and Environmental Protection

The Commission considered information on the past performance of the McClean Lake operation to assess whether the licensee has demonstrated its ability to adequately provide for the protection of workers, the public and the environment. The Commission specifically examined

CRI's performance in the areas of: conventional health and safety; radiation protection; and environmental protection.

4.2.1 Protection of Workers

Information was presented to the Commission on the features of the mill that are important to protecting workers from the radiation levels associated with the relatively high-grade ore being fed to this mill. Radiation doses to workers were reported to be less than predicted before startup, and have remained well below regulatory limits. The Commission is satisfied that the shielding and ventilation provided in the mill design have proven to be effective in protecting workers. The Commission further considers that the CNSC staff's inspections at the facility have confirmed that CRI's radiation protection program is effective.

During the hearing, the Commission asked about a mine pit wall failure that occurred this year. The incident did not, but had the potential to, cause serious personal injury. Geotechnical specialist advice provided to the Commission indicated that the failure was associated with a ground fault which intersects the pit. To avoid a repetition at the same location, the applicant has reduced the pit wall slope to close to the slump angle for gravel. On questioning from the Commission about the possibility of a failure of the wall at its other intersection with the fault, it was explained that at that point the fault and the wall are perpendicular to each other, and that failure is therefore not anticipated. Based on that information, the Commission is satisfied that CRI has taken the appropriate remedial steps to stabilize the pit wall and adequately reduce the risk of future failures of the pit wall.

As a result of information submitted by the applicant and confirmed by CNSC staff, the Commission is also satisfied that CRI has taken appropriate steps to train and supervise workers in other aspects of conventional health and safety.

4.2.2 Protection of the Environment

Information presented to the Commission indicates that all parts of the CRI's approved environmental program have been fully implemented. Effluent water quality met requirements consistently, and the measured contaminant releases to the environment compared well with values predicted in the earlier environmental assessment for the facility.

The Commission also noted the progress made by the applicant in reducing the number of spills, and that the environmental protection program at the facility now had ISO-14001 certification.

With respect to the proposed change in the production limit in the licence, the Commission concludes that this would not increase the total predicted quantity of contaminants released to the environment over the projected life of the mill, but only that the release of some of the contaminants will be accelerated. The Commission is satisfied that the existing environmental protection program is designed in such a way as to accommodate the proposed production rate change.

The Commission asked the applicant for clarification concerning an intervenor's concern about the state of knowledge of the quantity of radium-226 released to the environment (CMD 01-H18.2). CRI confirmed that the total radium release is known from discharge monitoring, and that estimates of the partitioning of the radium between the aqueous phase and the sediments have been made. The next sampling program to verify the accuracy of the partitioning estimates is scheduled for summer 2002. The results of that sampling will be reported to the CNSC.

Further to another concern expressed by the intervenor (CMD 01-H18.2), the Commission asked how genetic and somatic effects to biota from the radioactive releases to the aquatic environment are being evaluated. On the basis of further information provided by the CNSC staff during the hearing, the Commission concludes that although it is not possible to directly measure genetic damage to the potentially affected biota, continued monitoring of species community structure and reproduction capacity will provide an appropriate indication of genetic and somatic effects. No such effects have been observed to date.

The Commission is therefore satisfied that CRI has made, and will continue to make, adequate provision for the protection of the environment.

4.3 Public Consultation

CRI and CNSC staff presented information to the Commission about CRI's efforts to inform and involve local communities. It was explained that the applicant is part of a working group, together with two other licensed uranium mine operators, whose purpose is to involve the various communities in the Athabasca region in discussions concerning environmental protection, worker health and safety, training programs and employment opportunities. In addition, the Commission was informed of newsletters produced by the applicant and of various other initiatives aimed at ensuring comprehensive public information exchanges. Based on the information provided, the Commission is satisfied that the applicant has an acceptable public consultation program.

4.4 Licence Term

The Commission noted that CRI initially applied for a 5-year licence term, and that CNSC staff initially recommended a 2-year term. In supplementary submissions for Day 2 hearing, both applicant and staff recommended a 4-year term. The Commission takes several factors into account in determining the term of a licence.

One of these factors is the licensee's performance during the existing licence period. In this instance, occupational health and safety has improved steadily and environmental protection measures have been shown to be consistently satisfactory. Another factor is the stability of operations at the licensed facility, and whether many changes of a significant nature can be expected. In this instance, the only change anticipated in the near future is the annual production rate, which has already been tested for several months. A third factor considered by the Commission is the overall status of the licensee's management quality assurance program. A considerable amount of information was presented to the Commission to the effect that the applicant has a highly developed quality management system.

CNSC staff also indicated that a longer licence period would allow inspectors to devote more effort to surveillance and site inspection, rather than preparing licensing documents. They pointed out that, because of the work involved and the deadlines specified in the *Canadian Nuclear Safety Commission Rules of Procedure*, preparations for a new licensing recommendation start nine months ahead of the existing licence expiry date. The Commission wishes to ensure that effectiveness of safety compliance is of utmost importance and concludes that a 4 year licence, with the CNSC compliance program in place, offers this assurance.

The Commission attaches great importance to transparency in its operations, part of which is opportunity for intervenors to obtain information and be heard. Also, although future operations of the applicant appear likely at present to be stable for some years, the Commission realizes that unforeseen changes could occur which could affect safety. The Commission therefore concludes that a four-year licence term in this instance is compatible with maintaining the desired level of health, safety, and environmental protection. However, the Commission hereby requires that a status report on operational performance be submitted to the Commission by CNSC staff for consideration in a public meeting, at the mid-term point, in summer 2003. The status report will address the relevant information available at the end of the second annual reporting cycle specified in the licence.

The Commission is also satisfied that should significant developments occur in the performance of the facility at any time, these will be brought to the Commission by CNSC staff for examination in a public forum in accordance with the *Nuclear Safety and Control Act* and the *Canadian Nuclear Safety Commission Rules of Procedure*.

5. Conclusion

The Commission has considered the information and submissions of Commission staff and all participants as set out in the material available for reference on the record file as well as the submissions provided or made by the participants at the hearing. The Commission accepts the information set out in CMDs 01-H18, 01-H18.A, 01-H18.A1 and 01-H18.B prepared by CNSC staff and the submissions, statements of law, and conclusions set out in these documents.

The Commission is of the opinion that the proposed increase in the production limit of U_3O_8 at the JEB Mill is not likely to cause significant adverse environmental effects, taking into account the appropriate mitigation measures, and that accordingly the Commission may take a course of action consistent with paragraph 20(1)(a) of the *Canadian Environmental Assessment Act*.

The Commission is also of the opinion that the applicant satisfies the requirements of subsection 24 (4) of the *Nuclear Safety and Control Act*.

The Commission therefore issues, pursuant to section 24 of the *Nuclear Safety and Control Act*, licence UMOL-MINEMILL-McCLEAN.09/2005 to COGEMA Resources Inc. The licence will be valid from September 1, 2001 to August 31, 2005, unless suspended, amended, revoked or

replaced.

George C. Jack
Secretary,
Canadian Nuclear Safety Commission

Date of decision: August 9, 2001

Date of release of Reasons for Decision: August 30, 2001