

Record of Proceedings and Decision

In the Matter of

Applicant Rio Algom Limited

Subject Application to Amend the Class IB Waste
Facility Operating Licence for the
Replacement of the Stanleigh Effluent
Treatment Plant

Public Hearing
Date May 16, 2007

RECORD OF PROCEEDINGS

Applicant: Rio Algom Limited

Address/Location: PO Box 38, Elliot Lake, Ontario P5A 2J6

Purpose: Application to amend the Class IB Waste Facility Operating Licence for the replacement of the Stanleigh Effluent Treatment Plant

Application received: March 16, 2007

Date of hearing: May 16, 2007

Location: Canadian Nuclear Safety Commission (CNSC) Public Hearing Room, 280 Slater St., 14th. Floor, Ottawa, Ontario

Members present: C. R. Barnes, Presiding Member
A.R. Graham
A. Harvey

Secretary: M.A. Leblanc
General Counsel: S. Maislin Dickson/Lisa Thiele
Recording Secretary: M. Young

Applicant Represented By		Document Number
<ul style="list-style-type: none">• M. Wiber, Vice-President of Closed Mines for Rio Algom• D. Berthelot, Reclamation Manager, Elliot Lake• A. Coggan, Project Manager, Elliot Lake		CMD 07-H13.1 CMD 07-H13.1A
CNSC staff		Document Number
<ul style="list-style-type: none">• B. Howden• R. Barker	<ul style="list-style-type: none">• S. Lei• R. Lojk	CMD 07-H13 CMD 07-H13.A
Intervenor		Document Number
<ul style="list-style-type: none">• Serpent River Regional Environmental Committee		CMD 07-H13.2

Licence: Amended
Date of Release of Summary Decision: May 16, 2007
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Introduction

1. Rio Algom Limited (Rio Algom) has applied to the Canadian Nuclear Safety Commission¹ (CNSC) for an amendment to its Class IB Nuclear Waste Facility Operating Licence to enable the replacement of the existing water treatment plant located at the Stanleigh Tailings Management Area (TMA) with a new Effluent Treatment Plant (ETP) and settling pond. The Stanleigh TMA is located approximately 5 km north-east of the City of Elliot Lake, Ontario. The current waste facility operating licence is WFOL-W5-3101.02/indf.
2. Rio Algom possesses a waste facility operating licence for its nine closed uranium mine sites in Elliot Lake, Ontario. All of these mine and mill facilities have been decommissioned. The Stanleigh ETP is one of five ETPs that Rio Algom operates under authority of its licence.
3. The primary activities required for Rio Algom's proposed ETP include the following:
 - demolition of the existing ETP;
 - construction of an access road;
 - creation of a settling pond;
 - construction of a settling pond dam and spillway; and
 - construction of the new ETP.
4. Rio Algom's project proposal requires a licence amendment for the following activities:
 - construction of access roads;
 - construction of a settling pond dam and spillway;
 - construction and commissioning of the new plant;
 - demolition of the ETP;
 - creation of a settling pond; and
 - normal operations of the new ETP.
5. A screening level environmental assessment (EA) was conducted pursuant to the *Canadian Environmental Assessment Act*² (CEAA) and it was determined³ that the project is not likely to cause significant adverse environmental effects, taking into account mitigation measures identified in the EA Screening Report.

¹ The *Canadian Nuclear Safety Commission* is referred to as the "CNSC" when referring to the organization and its staff in general, and as the "Commission" when referring to the tribunal component.

² S.C. 1992, c. 37.

³ Refer to the *Record of Proceedings* on the matter of the *Screening Environmental Assessment for the Proposed Replacement of the Stanleigh Effluent Treatment Plant*, date of hearing March 7, 2007.

Issues

6. In considering the application, the Commission was required to decide, pursuant to subsection 24(4) of the *Nuclear Safety and Control Act*⁴ (NSCA):
 - a) if Rio Algom is qualified to carry on the activity that the amended licence would authorize; and
 - b) if, in carrying on that activity, Rio Algom would make adequate provision for the protection of the environment, the health and safety of persons and the maintenance of national security and measures required to implement international obligations to which Canada has agreed.

Public Hearing

7. The Commission, in making its decision, considered information presented for a public hearing held on May 16, 2007 in Ottawa, Ontario. During the public hearing, the Commission received written submissions and heard oral presentations from CNSC staff (CMD 07-H13 and CMD 07-H13.A) and Rio Algom (CMD 07-H13.1 and CMD 07-H13.1A), as well as a written intervention from the Serpent River Regional Environmental Committee (CMD 07-H13.2).

Decision

8. As stated in its *Summary Record of Proceedings and Decision* of May 16, 2007, and based on its consideration of the matter, as described elsewhere in this *Record of Proceedings*, the Commission concludes that Rio Algom is qualified to carry on the activity that the amended licence will authorize. The Commission is of the opinion that Rio Algom, in carrying on that activity, will make adequate provision for the protection of the environment, the health and safety of persons and the maintenance of national security and measures required to implement international obligations to which Canada has agreed. Therefore,

the Commission, pursuant to section 24 of the *Nuclear Safety and Control Act*, amends the Class IB Nuclear Waste Facility Operating Licence WFOL-W5-3101.02/indf issued to Rio Algom Corporation for its closed uranium mine sites located in Elliot Lake, Ontario. The amended licence WFOL-W5-3101.03/indf remains valid indefinitely, unless suspended, amended, revoked or replaced.

⁴ S.C. 1997, c. 9.

9. The Commission includes in the licence the conditions recommended by CNSC staff, as set out in the draft licence attached to CMD 07-H13.A.

Issues and Commission Findings

10. In making its licensing decision, the Commission considered a number of issues relating to Rio Algom's qualification to carry out the proposed activities and the adequacy of the proposed measures for protecting the environment, the health and safety of persons, national security and international obligations to which Canada has agreed.
11. CNSC staff stated that a screening level EA was conducted pursuant to the CEAA and it was determined that the project is not likely to cause significant adverse environmental effects, taking into account mitigation measures identified in the EA Screening Report.

Project Description

Project Overview

12. Rio Algom stated that the project entails the demolition and replacement of the existing Stanleigh ETP with a smaller, energy-efficient ETP; the construction of a dam and spillway, which will enable the development of a precipitate settling pond; the construction of access roads, and a change to the existing TMA spillway. Rio Algom stated that after the commissioning of the new ETP is complete but before the ETP begins routine operations, the existing ETP will be demolished and the debris disposed of in the landfill located under water in the Stanleigh TMA.

ETP Design

13. Rio Algom stated that the new ETP will be an energy-efficient, easily serviceable, more robust and relatively simple conventional system, similar to those used at all the other Rio Algom TMAs in the Elliot Lake area, followed by a settling pond to remove treatment precipitates.
14. Rio Algom explained that several design features were incorporated into the new ETP design, including gravity inflow, the separation of precipitates in a constructed settling pond requiring no input of energy, minimizing building size to reduce heat loss, energy generation by water turbine and/or a small diesel generator, and a remote telemetry system that will allow for 24/7 access to performance indicators and alarm conditions. Rio Algom noted that flow rates will be determined by the water level in the TMA and controlled by the plant influent valve.

15. The Commission asked if any of the excess power generated at the ETP will be delivered to Ontario Power Generation Inc. for use elsewhere. Rio Algom responded that it cannot do that because building a line to transmit the excess power would not be cost-effective. Rio Algom explained that it will not generate enough energy to make it economic to use elsewhere.

ETP Operations

16. Rio Algom stated that the inflow siphon will discharge through a turbine to a stilling well, which will lead to a reagent mixing channel, into which lime slurry and barium chloride will be added. Rio Algom noted that reagent addition rates will be adjusted to maintain pH and radium removal within operating ranges at the discharge of the settling pond. Rio Algom further explained that the discharge from the settling pond to McCabe Lake will take place after five to ten days. Rio Algom further noted that a flow control structure will prevent discharge in the event of a problem.
17. CNSC staff stated that the ETP will be operated in response to precipitation events in order to maintain the basin within its normal operating range. CNSC further stated that the annual volume of treated and discharged water will be similar to those under the current design. CNSC staff stated that the annual discharge volumes are expected to remain in the range from 5 megametres cubed (Mm^3) to 10.5 Mm^3 .

Construction of the ETP

18. Rio Algom stated that prior to any construction the water level in the TMA will be lowered to the normal low operating level to provide capacity for any precipitation that may occur during construction, which will ensure that the tailings will remain in a saturated state. Rio Algom added that the sand and gravel berm will be replaced with a concrete structure at slightly higher elevation, which will increase the storage volume of the TMA.
19. Rio Algom noted that plant operations personnel experienced in the commissioning and operation of the four existing ETPs will be involved in the dry testing and commissioning of the new ETP. Rio Algom also noted that the equipment and instrumentation will be tested wet while the valley sump is installed so that any off-specification water released to the settling pond can be returned to the TMA. Rio Algom explained that this will ensure that the new ETP is operational prior to the demolition of the existing ETP.

Settling Pond Design

20. Rio Algom stated that the new settling pond will be retained by a zoned rock fill dam approximately 125 m long and 11.1 m high at the deepest section. Rio Algom explained that the dam will have a wide overflow spillway channel, will be designed and constructed to the same standards as all of Rio Algom's other tailings dams, and will be inspected monthly and annually.
21. Rio Algom further explained that the spillway has a width of 61 m at the top, reducing to 30 m at the bottom, where a 6 m long stilling basin will dissipate flow before entering McCabe Lake. Rio Algom stated that the spillway was designed to safely convey the probable maximum precipitation (PMP) runoff, including outflow to the TMA spillway during such a storm event. Rio Algom noted that emergency control of the spillway can be implemented if the effluent quality becomes a concern.
22. Rio Algom stated that the settling pond will have a minimum retention time of five days at a maximum effluent treatment rate of 500 litres per second (L/s) and an effective retention time of ten days for a nominal flow rate of 275 L/s. Rio Algom stated that the minimum water depth above the settled sludge will be 6 m.
23. Rio Algom noted that seepage from the settling pond will contribute less than 0.5% of the annual radium loadings to McCabe Lake.
24. The Commission asked if the dams and structures around the TMA are capable of handling the proposed increase in elevation of the reservoir spillway from 1205 feet to 1207 feet. Rio Algom stated that they are. Rio Algom explained that it reviewed the hydrology and decided that the final elevation is appropriate and would also maintain the fisheries habitat.
25. The Commission inquired about the impact on the environment and McCabe Lake in the event that a significant amount of water was to enter the pond without going through the ETP. Rio Algom stated that significant effects are not expected downstream if the treatment system is bypassed in a major storm, because the radium level and water quality are already very close to the drinking water standards.
26. The Commission sought confirmation from CNSC staff that this is the case. CNSC staff responded that the influent from the TMA is at the drinking water quality objective for radium-226, and other contaminants are at safe levels. CNSC staff stated that the worst potential effect from a major storm would be an increase in sediment contamination, but it would only be a small change.

27. The Commission asked if the new settling pond design will meet precipitation projections, taking into account the effects of climate change. CNSC staff responded that the value for the PMP, 425 millimetres (mm) was determined in 1997 and the Ontario Ministry of Natural Resources reviewed all of its estimates for the entire province and updated the value in 2006. CNSC staff reported that the updated value is at least 70 mm lower than the previous value but still very conservative. CNSC staff stated that because the updated value is so conservative, the impact of climate change would be minimal.
28. The Commission, noting Rio Algom's statement that it would take approximately 150 years for the sludge bed to reach the maximum elevation of 1130.3 feet in the settling pond, sought clarification concerning the life expectancy of the settling pond. Rio Algom responded that because the sludge bed can be cleaned out, the settling pond can be used indefinitely.
29. The Commission asked if the settling pond's five to ten day retention time is sufficient to allow very fine material to settle and not flow into the lake. Rio Algom responded that in the settling tests it has conducted, good results were achieved with only one to three days settling time. Rio Algom stated that it is being conservative by using a settling time of five to ten days.
30. The Commission inquired about what would happen if Rio Algom's settling tests were not accurate. Rio Algom replied that it can add ferric sulphate if there is a need to have more rapid settling. Rio Algom noted that adding ferric sulphate increases treatment costs and generates more sludge, so Rio Algom refrains from doing so if it is not necessary.

Dam Construction

31. Rio Algom stated that in order to construct the new ETP and settling pond, the site will be cleared by a licensed logging company. Rio Algom further stated that following the clearing of the site, geological and geotechnical consulting engineers will map the bedrock and identify any potential areas of unusual seepage.
32. Rio Algom stated that two coffer dams will then be constructed and incorporated into the completed dam. Rio Algom noted that the construction of the dam will be concurrent with construction of new ETP, while the flooding of the new settling pond will occur following the demolition of existing ETP. Rio Algom also stated that new access roads to the ETP and dam will be constructed since the current access road will be partially flooded by the new settling pond.

33. Rio Algom stated that the dam construction will start with the installation of a silt fence along the shore of McCabe Lake and a double silt curtain in McCabe Lake immediately downstream of the dam construction area. Rio Algom noted that silt control measures will be inspected and maintained daily and McCabe Lake will be sampled daily for total suspended solids. Further to this, Rio Algom stated that a runoff collection sump and construction dewatering system will be established upstream of the upstream coffer dam and inspected daily.
34. Rio Algom stated that the dam core, filter zones, rockfill core and rip rap surfaces will be raised concurrently to minimize the period of working in the water. Rio Algom further stated that the dam will initially be completed to an elevation of 1130 feet, which is approximately 4 m above the water elevation in McCabe Lake. Rio Algom noted that at this elevation, the slope of the downstream dam embankment plus the stilling basin width will provide an approximately 30 m dry buffer zone between the construction area and McCabe Lake. Rio Algom explained that the buffer zone will isolate the construction zone from the lake for the remainder of the construction period.
35. The Commission asked if the dam has a concrete structure around the core. Rio Algom responded that the core is built with till and graded material, and the concrete is limited to the spillway notch, which is a notch in the dam for the normal operating levels of the pond.
36. The Commission expressed concern given the possibility that the dam may be constructed on a fault line. The Commission asked Rio Algom if it will be doing adequate geological and geotechnical work to determine the nature of the bedrock at the site. Rio Algom responded that it will determine the condition of the bedrock once the bedrock has been excavated and Rio Algom can perform a full inspection. Rio Algom stated that the site will be assessed by a geotechnical engineer who will ensure that the rock can provide a good foundation for the dam. Rio Algom further stated that it will look for fractures in the bedrock, and if there is a digression from what is already known about the bedrock, Golder Associates will supply a geologist to investigate the bedrock.
37. Rio Algom stated that the region was previously extensively geologically mapped by Golder Associates, in particular when the mine was reopened in 1981. Rio Algom stated that it has drilled three bore holes in the dam foundation area and a geologist has confirmed that the original geological mapping was correct. Rio Algom also stated that it conducted geophysical work to determine the profile of the bedrock, which was confirmed to be in conformance with the geological mapping.
38. Rio Algom further stated that it expects to find some fractures in the very centre of the basin, which would be normal. Rio Algom explained that it has done other rock excavations and used dental concrete to address rock fractures.

39. CNSC staff stated that it investigated the concern about a fracture zone through the foundation of that dam. CNSC staff confirmed that the three bore holes could not detect any fracture zone in that foundation.
40. The Commission asked whether there is a need for groundwater monitoring given the permeability of the dam and bedrock. Rio Algom stated that it conducted a full seepage analysis and found it to be one percent of the discharge from the pond, which will have little impact on McCabe Lake due to the volume of the lake. Rio Algom further stated that it has considered other groundwater conditions and the radium levels. Rio Algom stated that the loadings to McCabe Lake are a very small fraction of the natural discharge from the TMA.

Removal of the Existing ETP

41. Rio Algom stated that prior to the construction of the settling pond the existing ETP must be decommissioned. Rio Algom stated that the removal of the existing ETP will take place over the following stages:
 - plant circuit cleanout;
 - removal of hazardous material;
 - equipment salvage (if any);
 - demolition; and
 - removal of power line and main transformer station.
42. CNSC staff explained that the cleanout will remove loose material and dust, and the tanks and filters will be flushed with process water to return all precipitates to the TMA. CNSC staff further explained that the hazardous materials, including oil, grease, lime, barium chloride and diesel fuel will either be disposed, consumed or transferred and re-used. CNSC staff noted that material contaminated with radionuclides, filter media and demolition debris will be disposed of in the TMA landfill.
43. CNSC staff stated that equipment salvage is anticipated to be limited because most of the equipment has been contaminated with radionuclides or is site-specific and thus has no market value. CNSC staff noted that some equipment may be salvaged if deemed to be cost effective. CNSC staff stated that any salvaged equipment or scrap steel will be washed and monitored for radiation. CNSC staff further noted that any contaminated materials will be disposed of in the landfill in the TMA.
44. CNSC staff stated that the demolition of the existing ETP will be undertaken using heavy equipment to ensure that there will be no exposure of workers to falling material from the site. CNSC staff noted that demolition debris will be loaded onto trucks and transported to the TMA landfill.

45. CNSC staff stated that for the removal of the power line, the power will be disconnected from the main transformer station and pole line, and the conductors and pole hardware will be disposed of in the TMA landfill or sold as scrap.
46. The Commission asked Rio Algom to further explain the sequence in which it plans to construct the new ETP and demolish the existing ETP. Rio Algom responded that it intends to complete the construction of the new ETP and test it to ensure that it is ready for operation; demolish the old buildings; and then start up the new ETP. Rio Algom explained that it will not start up the new ETP for full operation until the old ETP has been decommissioned because the old ETP will be inundated by the new settling pond.

Qualifications and Protection Measures

Risks Associated with the Licensed Activities

47. CNSC staff stated that the risks associated with the licensed activities at the facility are related primarily to the competence of the engineering features associated with the containment of nuclear substances, in the operations and monitoring of the facility ETPs and in the competence of other static structures to minimize contaminants released to the environment.
48. CNSC staff stated that although the public is restricted from the TMAs by fencing, gating and signage, the TMAs are accessible by walking. CNSC staff stated that the potential radiation dose to the public has been modeled, and analysis has indicated that the radiation dose to workers and the general public is acceptably low. CNSC staff stated that the risks to persons from normal operations are minimal.
49. CNSC staff stated that the overall risk associated with the licensed activities is low, based on the type of activities required to operate the facility, the standards to which the engineering features of the facility have been designed, the monitoring programs in place, the probability of an occurrence that would impact the health and safety of workers and the environment, the ongoing public information and awareness program that has been established by Rio Algom and the consequence of a credible accident.

Safety Areas

50. CNSC staff stated that it reviewed Rio Algom's performance in several safety areas in August 2005, and although it did not re-review Rio Algom's performance for the purposes of this licence amendment request, CNSC staff noted that there have been no changes to Rio Algom's performance indicators since 2005, and as such, the previous safety ratings continue to apply.

51. CNSC staff reported that the Program and Implementation for all of Rio Algom's safety areas have been assessed as "meeting requirements", including the following:
- Operations and Maintenance;
 - Non-Radiological Health and Safety;
 - Radiation Protection;
 - Environmental Protection;
 - Quality Management;
 - Emergency Preparedness;
 - Fire Protection;
 - Safeguards; and
 - Public Information Program.

Security

52. Rio Algom stated that the ETP construction site is located in a remote section of the property, at least 2 km east of the gate and common pedestrian access points. Rio Algom stated that the prevention of vehicular traffic on the site was improved in 2006 by the installation of boulder fences and signage at all known public access points. Rio Algom noted that project-specific security measures include additional signage prohibiting all site access, increased frequency of security patrols and posting a flag person at the gate during haulage of off-site materials.

Radiation Protection

53. Rio Algom stated that its established radiation protection programs and procedures will apply to the project. Rio Algom further stated that its dose records confirm that these measures have been successful in ensuring no worker has exceeded the public dose limit following closure of the mines in 1990.
54. Rio Algom also stated that training will be included in the project orientation, and workers likely to come in contact with radioactive materials will be monitored. Rio Algom added that practices established for the safe handling of tailings and sludge will apply to the handling of filter materials.

Health & Safety

55. Rio Algom stated that its established health and safety programs and procedures will also apply to the project. Rio Algom noted that its staff and contractors have experienced no lost time injuries or incidents since 2000.

56. Rio Algom further stated that a specific safety and environmental protection plan will be implemented for each part of construction. Rio Algom explained that the following factors will be incorporated into these plans:
- hazard identification;
 - risk mitigation and controls;
 - safety targets and objectives, including required frequency for tool box meetings, work site inspections, and job and critical task observations;
 - project orientation requirements including radiation safety; and
 - project safety tasks, designates and schedule.

Environmental Protection

57. Rio Algom stated that a contract-specific safety and environmental protection plan will be provided for each part of construction. Rio Algom explained that the following factors will be incorporated into these plans:
- all equipment used for the purpose of site preparation and project completion will be operated and stored in a manner that prevents any deleterious substance from entering the water;
 - all material handling and management minimizes land disturbance and storage of materials on site; and
 - regular road maintenance and watering for dust control.
58. Rio Algom stated that, for the purpose of fish habitat mitigation measures, it followed a letter of advice from Fisheries and Oceans Canada. Rio Algom stated that Fisheries and Oceans Canada accepted Rio Algom's proposed mitigation measures and confirmed Rio Algom's requirements for silt and fuel controls during construction. Rio Algom stated that it has incorporated silt and fuel control measures in the Stanleigh Settling Pond Dam Construction Plan.
59. Rio Algom stated that in order to maintain surface water quality during the dam construction phase of the project, it will establish two supplemental monitoring stations downstream of the silt curtains in McCabe Lake. Rio Algom stated that these locations will be monitored weekly for total suspended solids during dam construction and daily during periods of working at or below the McCabe Lake water level (e.g. during settling pond foundation preparation).
60. Rio Algom noted that monitoring and response plans, including work stoppage, have been developed and will be implemented for the project. Rio Algom further noted that an inspection and preventative maintenance program has been developed and will be implemented for the silt controls and construction dewatering systems.

61. Concerning the issue of dust and noise, Rio Algom stated that the location of the Stanleigh TMA, 3 km northeast of the City of Elliot Lake with an additional 2 km to the ETP site, with significant topographic relief, will prevent the transmission of noise. Rio Algom also stated that the project Construction Manager will ensure that the roads are inspected daily during the construction project and watered as required.

Quality Control and Quality Assurance

62. Rio Algom stated that the project Construction Manager will attend the site daily to confirm that work is being executed in accordance with construction specifications. Rio Algom further stated that a qualified geotechnical engineer will evaluate foundation conditions and map bedrock prior to construction. Rio Algom noted that the geotechnical engineer will also oversee and report on concrete and dam fill placement quality control measures, and prepare as-built reports for the TMA spillway and settling pond dam.
63. Rio Algom also stated that it will inform the appropriate regulatory agencies, i.e., the members of the Elliot Lake Joint Review Group (see paragraph 80), and consult with them on any project changes that may have a potential significant impact on the future performance of the ETP or settling pond.
64. The Commission asked who would determine whether there is a potential significant impact and who would decide to inform and consult with appropriate agencies. Rio Algom stated that as the operator of the facility, it has the responsibility and will make any decisions whether to report to the members of the Elliot Lake Joint Review Group. CNSC staff emphasized that Rio Algom is responsible for the safe construction, commissioning, and ultimate operation of the facility, and as such, CNSC staff expects Rio Algom to use its quality management system for control and change management. CNSC staff noted that it, along with the members of the Elliot Lake Joint Review Group, will perform regulatory verification.

Emergency Response and Contingency Planning

65. Rio Algom stated that emergency response and contingency planning standards will be applied to the project. Rio Algom explained that all personnel working on the site will be instructed in the basic emergency response procedures and obligations as part of the mandatory orientation session, and all contractor supervisor staff will be provided with emergency response initiation and notification procedures.

66. Rio Algom stated that due to the construction schedule, there is only a short period of time in which an extreme precipitation event could occur, and as such, the risks are minimal for release of silt-laden storm water to McCabe lake. Rio Algom stated that in the unlikely event of an extreme precipitation event, the silt curtain in McCabe Lake would be unaffected by the flow velocity within the lake and accordingly should retain any silt washed into the lake.
67. Rio Algom further stated that foundation conditions and material availability have been established and no dam construction delays are expected. Rio Algom explained that in the event that bedrock mapping indicates the need for grouting or wet conditions prevent the application of clay, resulting in construction delays beyond November 15, 2007, construction would be halted for the winter. Rio Algom also stated that it has contingency plans in place, including covering and protecting the dam clay core with rip rap, installing a temporary spillway.
68. The Commission asked CNSC staff if it concurs with Rio Algom's assessment that risks are minimal. CNSC staff responded that there are no significant, foreseeable risks that would result in a long-term interruption. CNSC staff noted that there are some minor risks such as potential extreme rain flow events, and if the PMP event were to occur, it could result in a short-term interruption.

Compliance Verification

69. CNSC staff stated that compliance verification at Rio Algom's facility is done through physical inspections and reviewing documentation and information submitted by Rio Algom. CNSC staff stated that it independently assesses Rio Algom's facilities and programs, noting that routine facility inspections are conducted annually. CNSC staff reported that following a routine compliance inspection conducted in September 2005, it was determined that there were no significant issues of non-compliance. CNSC staff noted that since this time, one other routine compliance inspection was carried out. CNSC staff further stated that CNSC geotechnical engineers inspect specified dam structures on a bi-annual basis.
70. CNSC staff stated that it is satisfied with Rio Algom's performance, noting that if deficiencies are identified by CNSC staff, they tend to be minor and, once identified, corrected in a timely manner. CNSC staff also noted that it is satisfied with Rio Algom's performance in investigating and proactively correcting deficiencies and initiating general improvements.

Financial Guarantee

71. CNSC staff stated that the financial guarantee for the facility is secured by a letter of credit. CNSC staff noted that the value of the financial guarantee is adjusted annually in a proposal due by March 31 of each year. CNSC staff stated there continues to be adequate assurance that the Quirke, Panel, Spanish American, Milliken, Lacnor, Nordic/Buckles and Pronto mine sites will be maintained as required. CNSC staff also stated that the arrangements made in relation to the Stanleigh mine site with the backing of the Canada-Ontario cost-sharing agreement together remain an adequate form of financial guarantee.
72. The Commission asked whether the project would utilize any of the funds allocated for the financial guarantee. Rio Algom stated that it would not.

Cost Recovery

73. CNSC staff stated that Rio Algom is in compliance with the CNSC's *Cost Recovery Fees Regulations, 2003*⁵.

Public Interest

74. CNSC staff reported that there has been no significant public interest with respect to the proposed licence amendment. CNSC staff stated that it solicited comments from the public and stakeholders during the EA and no comments were received.
75. CNSC staff also stated that Rio Algom's public information program was augmented for 2006 by public consultation activities specifically related to the project, including council presentations, an open house and a newsletter.
76. In its intervention, the Serpent River Regional Environmental Committee stated that it has been amply informed in all stages of project by CNSC staff and Rio Algom, noting that their submissions are thorough, well written and understandable.

Aboriginal Consultation

77. Rio Algom stated that the First Nation band nearest to the facility is the Serpent River First Nation. Rio Algom stated that it maintains an on-going communication and consultation with the Serpent River First Nation, and as such, the Serpent River First Nation was consulted with respect to this project. Rio Algom noted that the Serpent River First Nation provided input on the Valued Ecosystem Components for the EA, which resulted in Rio Algom increasing fish consumption rates to reflect aboriginal intake for the evaluation of potential human health impacts.

⁵ S.O.R./2003-212.

78. Rio Algom further noted that the Ontario Ministry of Natural Resources has undertaken consultation with the Serpent River First Nation on the disposition of water rights to Rio Algom. Rio Algom stated that a verbal indication of agreement has been made.
79. The Commission asked if a formal agreement had been reached. Rio Algom replied that at a meeting in April 2007, the Serpent River First Nation confirmed for the record that it had no further questions with respect to either the Stanleigh Treatment Plant Project or the disposition of water rights.

Consultation with Other Agencies

80. CNSC staff stated that it has made use of cooperative arrangements between the Commission and other regulatory agencies, specifically members of the Elliot Lake Joint Review Group, which includes the following:
- Environment Canada;
 - Fisheries and Oceans Canada;
 - Ontario Ministry of the Environment (MOE);
 - Ontario Ministry of Natural Resources (MNR);
 - Ontario Ministry of Northern Development and Mines; and
 - Ontario Ministry of Labour.
81. CNSC staff explained that the group participates in various activities associated with the CNSC licenses in Elliot Lake, including facility inspections, compliance meetings and review and comment on licence performance, and the design and conduct of the various environmental monitoring programs.
82. Rio Algom stated that other permits and approvals were required to enable the project to proceed, including the following:
- Certificate of Approval Industrial Sewage for the discharge of effluent to McCabe Lake, by the MOE;
 - Certificate of Approval for the use of a 10-20 kW back-up diesel generator, issued by the MOE;
 - Approval under the Lakes and Rivers Improvement Act (LRIA) for construction of the settling pond dam, by the MNR;
 - MOE EA for the water turbine, as required by Regulation 116/01 Electricity Projects;
 - Land Use Permit for micro hydro electric power generation from the influent flow to the treatment plant, by the MNR;
 - Waterpower Direct Site Release required for approval of the turbine location, by the MNR;
 - a clearance letter from DFO confirming that the mitigation incorporated into the facility design will be sufficient to avoid a harmful disruption, alteration, or destruction of fish habitat;

- a Forest Resource Licence for the clearing of the basin area, or, if a local logging licensee is contracted out to conduct the clearing, a letter of authorization from MNR; and
 - a demolition permit from the city of Elliot Lake.
83. During the hearing, CNSC staff reported that all of the approvals and permits had been obtained by Rio Algom, save for the Certificate of Approval for the use of a 10-20 kW back-up diesel generator and the demolition permit from the city of Elliot Lake. CNSC staff noted that the Certificate of Approval is expected to be issued shortly, as confirmed by MOE staff. CNSC staff also noted that the demolition permit will be sought by Rio Algom later in the project once the demolition contractor has been selected and a building permit for the new ETP has been applied for.

Application of the *Canadian Environmental Assessment Act*

84. Before making a licensing decision, the Commission must be satisfied that all applicable requirements of the CEEA have been fulfilled.
85. A screening level EA was conducted pursuant to the CEEA and the Commission determined that the project is not likely to cause significant adverse environmental effects, taking into account mitigation measures identified in the EA Screening Report.
86. Therefore, the Commission is satisfied that all applicable requirements of the CEEA have been fulfilled.

Conclusion

87. The Commission has considered the information and submissions as presented in the material available for reference on the record.
88. The Commission is satisfied that the applicant meets the requirements of subsection 24(4) of the *Nuclear Safety and Control Act*. That is, the Commission is of the opinion that Rio Algom is qualified to carry on the activity that the amended licence will authorize and that it will make adequate provision for the protection of the environment, the health and safety of persons and the maintenance of national security and measures required to implement international obligations to which Canada has agreed.
89. The Commission therefore amends, pursuant to section 24 of the *Nuclear Safety and Control Act*, the Class IB Nuclear Waste Facility Operating Licence WFOL-W5-3101.02/indf issued to Rio Algom Corporation for its closed uranium mine sites located in Elliot Lake, Ontario.

90. The Commission includes in the licence the conditions recommended by CNSC staff as set out in the draft licence attached to CMD 07-H13.A.

Dr. Christopher R. Barnes,
Presiding Member
Canadian Nuclear Safety Commission

Date of decision: May 16, 2007

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