

# Record of Proceedings, Including Reasons for Decision

In the Matter of

Applicant      Earth Sciences Extraction Company /  
ESI Resources Ltd.

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Subject      Application for the renewal of the Licence for  
ESI Resources Ltd.'s (Earth Sciences Extraction  
Company) Nuclear Fuel Facility in Calgary,  
Alberta

Date      January 12, 2006

## RECORD OF PROCEEDINGS

Applicant: Earth Sciences Extraction Company

Address/Location: 3077 Shepard Place S.E., P.O. Box 997,  
Postal Station T, Calgary, Alberta, T2H 2H4

Purpose: Application for the renewal of the Licence for ESI Resources  
Ltd.'s (Earth Sciences Extraction Company) Nuclear Fuel Facility  
in Calgary, Alberta

Application received: September 12, 2005

Date(s) of hearing: November 30, 2005

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

Members present: L.J. Keen, Chair      A.R. Graham  
C.R. Barnes      M. J. McDill

Secretary: M.A. Leblanc  
Recording Secretary: C. Taylor  
General Counsel: J. Lavoie

<b>Applicant Represented By</b>	<b>Document Number</b>
<ul style="list-style-type: none"><li>• R. H. Gordon, Operations Manager</li><li>• Dr. N. L. Arrison</li></ul>	CMD 05-H33.1 CMD 05-H33.1A CMD 05-H33.1B
<b>CNSC staff</b>	<b>Document Number</b>
<ul style="list-style-type: none"><li>• B. Howden</li><li>• H. Rabski</li></ul>	<ul style="list-style-type: none"><li>• J. Jaferi</li><li>• P. Thompson</li></ul> CMD 05-H33 CMD 05-H33.A
<b>Intervenors</b>	<b>Document Number</b>
Western Co-Operative Fertilizers Limited, represented by J. Gallagher and R. Barsy, Golder Associates	CMD 05-H33.2 CMD 05-H33.2A

**Licence:** Issued  
**Date of Decision:** November 30, 2005

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## 1. Introduction

Earth Sciences Extraction Company (ESEC) has applied to the Canadian Nuclear Safety Commission (CNSC<sup>1</sup>) for an extension of its operating licence for a uranium recovery facility located in Calgary, Alberta for a period of one year. The facility consists of processing equipment (located in the Concentrate Dryer Room at the facility) for removing uranium from phosphoric acid and an outdoor effluent evaporation pond (the pond). The facility has been maintained in a secure shutdown condition since 1987. ESEC has applied to continue maintaining the facility in a non-operating mode while it completes research on future business opportunities on the site and completes a decontamination of the licensed areas and equipment.

Because the existing licence (no. FFOL-3663.0/2005) was due to expire on the date of the public hearing (November 30, 2005), the Commission considered the matter as an application for a renewal of the licence, rather than for an amendment of the existing licence to extend the expiry date and modify the conditions.

ESEC is a limited partnership that is wholly owned by ESI Resources Ltd. (ESIR), a private Alberta corporation. As such, the Commission is satisfied that ESIR is the entity responsible under the current licence and that ESIR is the applicant for the purpose of the proposed licence renewal. ESIR has acknowledged its responsibility and role as the licensee and applicant in this respect.

In considering the application, the Commission was required to decide, pursuant to subsection 24(4) of the *Nuclear Safety and Control Act*<sup>2</sup>:

- a) if ESIR is qualified to carry on the activity that the licence would authorize; and
- b) if, in carrying on that activity, ESIR 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:

The Commission, in making its decision, considered information presented for a public hearing held on November 30, 2005 in Ottawa, Ontario. The public hearing was conducted in accordance with the *Canadian Nuclear Safety Commission Rules of Procedure*<sup>3</sup>. During the public hearing, the Commission received written submissions and heard oral presentations from CNSC staff (CMD 05-H33 and CMD 05-H33.A) and ESIR (CMD 05-H33.1, CMD 05-H33.1A and CMD 05-H33.1B). The Commission also considered oral and written submissions from an intervenor,

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<sup>1</sup> In this *Record of Proceedings*, 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.

<sup>2</sup> S.C. 1997, c. 9

<sup>3</sup> SOR/2000-211

Western Co-Operative Fertilizers Limited (Westco). Westco is the owner and lessor of the property on which the ESIR facility is located.

## 2. Decision

Based on its consideration of the matter, as described in more detail in the following sections of this *Record of Proceedings*, the Commission concludes that ESRI is qualified to carry on the activity that a limited licence would authorize (i.e., a licence that does not permit all of the activities sought by the applicant). The Commission is satisfied that ESIR, in carrying on the permitted activities, 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*<sup>4</sup>, issues Fuel Facility Operating Licence FFOL-3663.0/2006 to ESI Resources Ltd. for the purpose of maintaining its uranium recovery facility in Calgary, Alberta in a secure, shutdown state. The licence is valid from December 1, 2005 to July 31, 2006.

The Commission includes in the licence the conditions recommended by CNSC staff in the draft licence attached to CMD 05-H33.A, with the exception of the proposed conditions in section 4 of the draft licence (Decontamination). With respect to the proposed conditions in section 4 of the draft licence, the Commission is not satisfied that the licensee is qualified to undertake the proposed decontamination activities at this time and therefore the Commission does not add those conditions. Under the licence, the ESIR may not operate the facility, or undertake any activity involving the movement or handling of nuclear substances on the site without the prior written authorization of the CNSC. ESIR must also continue to restrict personnel access to the licenced area and maintain the existing security and surveillance measures.

The Commission understands that, at this time, ESIR is uncertain about its future business activities at the facility, including whether or not the processing of nuclear substances under CNSC license may resume in the future. The Commission is also aware that the lease for the property on which the facility is located is in dispute. The eight-month licence granted by the Commission will provide ESIR time to decide on the future use of the facility and to prepare, in conformance with the information requirements set out in the Regulations under the *Nuclear Safety and Control Act*, a licence application commensurate with that future use. The required information for an application includes, among other things, assurance that the licensee will have control of the property, a plan for the decommissioning of the site, a reasonable estimate of the decommissioning costs, and an acceptable financial guarantee for that decommissioning. See section 3.4 below for a further discussion of the Commission's finding in respect of decommissioning plans and financial guarantees.

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<sup>4</sup> *Supra* note 2.

### **3. Issues and Commission Findings**

In making its licensing decision under section 24 of the *Nuclear Safety and Control Act*, the Commission considered a number of issues relating to ESIR's qualifications 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.

The findings of the Commission presented below are based on the Commission's consideration of all the information and submissions available for reference on the record for the hearing.

#### **3.1 Radiation Protection**

With respect to protecting the health and safety of persons from the effects of radiation, the Commission considered the past performance and future plans of ESIR in the area of radiation protection.

In this regard, CNSC staff expressed the view that the facility, in its current shutdown and secured state, poses a very low radiological risk to the workers and public. CNSC staff stated, however, that a person of appropriate authority and with appropriate training in radiation protection protocols would need to be present during any operation of the uranium recovery circuit, or during any activity involving the handling of nuclear substances in the Condensate Dryer Room or pond areas (the licensed areas). CNSC staff added that the former plant manager, who is a qualified Radiation Safety Officer, had left the facility in March 2005.

ESIR stated that it had recently engaged Dr. Arrison, formerly with Atomic Energy of Canada Limited, to satisfy the CNSC's radiation protection requirements. In response, CNSC staff stated that it was not satisfied that this arrangement with Dr. Arrison, who resides in Edmonton, fulfilled the requirements for radiation protection on the site. The Commission was not also persuaded that Dr. Arrison would be able, at this time, to effectively fulfill the role of Radiation Safety Officer at the facility.

CNSC staff expressed the view, however, that ESIR would be qualified to limit radiation exposures by maintaining the existing measures that isolate and prevent access to the licensed areas. CNSC staff added that ESIR has demonstrated its ability to do this during the current licence period. The facility has been maintained in full compliance with the regulations and conditions of the existing licence.

Based on the information received, the Commission is not satisfied that ESIR is qualified, and would make adequate provision, to protect the health and safety of person from radiation during the active operation, decontamination or decommissioning of the facility. The Commission, however, is satisfied that ESIR is qualified and has made, and will continue to make, adequate provision to protect the health and safety of persons in maintaining the facility in its current shutdown and secure state.

### **3.2 Environmental Protection**

To determine whether ESIR will make adequate provisions to protect the environment while carrying out the proposed activities at the facility, the Commission considered the potential for the activities to adversely affect the environment.

In this regard, CNSC staff expressed the view that the facility, in its current shutdown and secured state, poses a very low risk to the environment. CNSC staff reported that there are no releases to the environment from the facility and that the licensee has maintained the facility in full compliance with the regulatory requirements.

However, with respect to the proposed decontamination of the facility during the period of the new licence, CNSC staff noted that ESIR has not yet submitted for CNSC approval, a decontamination plan, including a plan for disposal of the nuclear substances recovered. CNSC staff therefore recommended that the Commission add conditions to the licence that would require ESIR to retain the services of a qualified consultant to characterize the contamination on the site and prepare a decontamination plan for CNSC approval prior to March 31, 2006. CNSC staff also recommended that the licensee be required, by conditions of the licence, to implement and complete the decontamination of the facility by October 31, 2006.

Following its questioning of ESIR on its future plans for the site, including in respect of its proposed decontamination of the facility, the Commission was not satisfied that ESIR had a clear understanding of what it intends to do on the site. Nor was it clear that ESIR fully understood what CNSC staff was recommending in terms of the requirements for, and timing of, a facility decontamination project. Despite the reassurances of ESIR during the hearing, the Commission was also not satisfied that ESIR understands the importance of fully complying with the terms and conditions of a CNSC licence that would be issued in respect of site operations or decontamination. Furthermore, the Commission is not satisfied that ESIR is yet qualified to operate the site, or to plan and carry out a decontamination of the site in a manner that would provide for adequate protection of the environment.

The Commission concluded therefore that ESIR is currently qualified and will make adequate provision to protect the environment only in respect of the continued maintenance of the site in its current, secure shutdown state. The Commission expects that ESIR will use the period of the licence to acquire the appropriate qualifications and to identify the necessary provisions to protect the environment and to submit this as part of a complete application to the Commission for the future operation, decontamination, or decommissioning of the facility as the case may be.

### **3.3 Operating Performance**

The Commission considered ESIR's past performance under the current licence as an indication of how ESIR is likely to perform in the future. In this regard, CNSC staff reported that the facility has been maintained in a safe and secure shutdown condition since uranium recovery operations ceased in 1987. CNSC staff stated that ESIR has remained, and currently remains, in

compliance with all regulatory requirements for maintaining the facility in a non-operating stand-by mode.

In response to the Commission's questions on other activities at the site, ESIR stated that a metal recycling operation is another tenant on the property, but that this activity is separate from the licensed area. CNSC staff confirmed that the licensed area has remained secured from unauthorized entry, that adequate separations have been maintained between the licensed areas and other businesses on the property, and that there is no evidence of any material or equipment having been released from the licensed area since operations ceased.

Based on the information received, the Commission is satisfied that ESIR's past performance provides a good indication of its ability to continue the maintenance of the site in its current shutdown mode during the new licence period.

### **3.4 Decommissioning Plan and Financial Guarantee**

With respect to the future decommissioning of the facility and the status of the related Preliminary Decommissioning Plan (PDP) and financial guarantee, CNSC staff reported that ESIR submitted an acceptable PDP in April 2005. CNSC staff noted that, based on that PDP, ESIR has estimated the cost of decommissioning to be in the order of \$1.7 million (including a \$0.9 million contingency) and has offered a security position in the form of its facility assets as a financial guarantee for this. CNSC staff stated that, while it finds the cost estimate to be reasonable, it has not accepted the proposed form of the financial guarantee.

Westco, in its intervention, expressed its concern about the environmental liability at the site and about what it views as the questionable financial health of ESIR. Westco also stated that it has made its own estimate of the decommissioning costs and believes it to be in the area of \$2.5 million. Westco requested that the Commission, in its licensing of the site, require ESIR to undertake an aggressive schedule for decontamination and to put an acceptable financial guarantee in place for that work.

During the Commission's examination of this matter during the hearing, there appeared to be confusion among the participants and CNSC staff about what the terms "decontamination" and "decommissioning" mean in this context. ESIR appeared to be of the misunderstanding that "decommissioning" means the complete removal of all physical assets from the property. ESIR also expressed the view that the cost of removing what it considers to be a relatively small amount of nuclear substances from the site (i.e., decontamination) would not be as high as the \$1.7 to 2.5 million suggested above. ESIR stated that it wished to retain its capital investment on the site for other, possibly non-radioactive, work and that it wished to review and resubmit what it believes to be a more reasonable cost estimate for decontamination.

CNSC staff stated that if the decontamination could be completed within the proposed 1 year term of the licence, then a financial guarantee would not be required for decommissioning. CNSC staff therefore did not recommend adding a licence condition specific to the financial guarantee. The Commission, noting that the purpose of a financial guarantee would be to address

a potentially unfunded environmental liability that currently exists, does not accept this proposed approach.

The Commission notes that “decommissioning” is a licensed activity that occurs after a licensee has decided to permanently terminate its licensed activity and render the facility to a condition that no longer requires a licence under the NSCA. Depending on the state of the facility at the time that decision is made, decommissioning activities may or may not include significant decontamination of equipment and lands to a specified level that would no longer require licensing. The defined end-state for decommissioning must be specified in a decommissioning plan. Providing that the nuclear substances that were the subject of the CNSC licensing have been removed at the end of decommissioning, the remaining structures and equipment would not necessarily need to be removed to achieve the approved end-state. The Commission requires that, for Class 1 nuclear facilities, the desired decommissioning end-state and approach to the decommissioning, as well as a reasonable estimate of the cost to achieve that end-state, be set out in an acceptable Preliminary Decommissioning Plan (PDP) and financial guarantee. The PDP, and related cost estimate and financial guarantee, must be maintained throughout the life-cycle of a facility. This is to ensure that the necessary work to achieve the final end-state could be completed by another party in the event the licensee becomes financially insolvent at any time.

Therefore, ESIR must, in preparing its next application in accordance with the regulatory requirements (be that for decommissioning, or for some other continued licensed activity) undertake to update its PDP and to propose a decommissioning financial guarantee acceptable to the CNSC. ESIR is encouraged to seek further guidance from CNSC staff in this matter. In response, ESIR acknowledged the CNSC’s interest in obtaining a decommissioning financial guarantee and that it would, in collaboration with its affiliates, endeavour to produce a financial guarantee that meets the CNSC’s requirement.

In conclusion, the Commission is not satisfied that ESIR has fulfilled the CNSC’s requirements for decommissioning planning and the provision of a financial guarantee for decommissioning. The Commission’s decision to limit the length of the new licence to a term of 8 months is, in part, to ensure that risks associated with this deficiency are addressed by ESIR as quickly as possible, while still allowing time for a public hearing on a subsequent application.

### **3.5 Public Information**

With respect to the CNSC’s requirement that licensees maintain an effective public information program, the Commission notes, from the information received, that no such program exists.

Westco, in its intervention, expressed concern about the lack of public information and noted that the surrounding land-uses have changed considerably in recent years. In Westco’s opinion, any plans for the future decommissioning or use of the facility should involve consultations with the public.

The Commission concludes that the matter of a public information program must be addressed in any future application for licensing of this facility.

### **3.6 Security**

Based on the information received from ESIR and CNSC staff, the Commission concludes that ESIR has made, and will continue to make, adequate provision for maintaining the physical security of the licensed area.

### **3.7 Safeguards and Non-Proliferation**

CNSC staff noted that the facility is subject to the Treaty on the Non-Proliferation of Nuclear Weapons and the Additional Protocol to the Agreement. CNSC staff reported that inspectors from the International Atomic Energy Agency (IAEA) conducted a “complementary access” inspection of the facility and concluded that there were no undeclared nuclear materials or activities at the site.

Based on the information received, the Commission is satisfied that ESIR has made, and will continue to make, adequate provision for protecting national security and for maintaining international obligations to which Canada has agreed.

### **3.8 Canadian Environmental Assessment Act**

Before making a licensing decision, the Commission must be satisfied that all applicable requirements of the *Canadian Environmental Assessment Act*<sup>5</sup> (CEAA) have been fulfilled.

In this case, the renewal of the licence is not a trigger for an environmental assessment under the CEAA. The Commission concludes therefore that it does not need to complete an environmental assessment under the CEAA before it may proceed with making a licensing decision on the licence application pursuant to the NSCA.

### **3.9 Licence Length**

ESIR has applied for a licence term of 1 year, during which time ESIR proposed to maintain the facility in its current shutdown state and to complete a thorough decontamination.

Following the Commission’s questioning of the rationale for the proposed 1-year licence term, the Commission was not satisfied that ESIR fully understood what the proposed decontamination activities would entail and how long the decontamination would take. Nor was the Commission satisfied that ESIR understood the meaning of the licence condition proposed by CNSC staff. ESIR stated that winter conditions could delay the decontamination work in the pond area and that, as a consequence, the decontamination activities could conceivably extend into the following year. The Commission noted that if the licence were to require the work to be complete by a certain date, then the licensee must understand this and be prepared to comply with the terms of the licence.

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<sup>5</sup> S.C. 1992, c. 37

On another matter, the Commission is aware that the lease for the property on which the facility is located is in dispute. The lessor, Westco, in its intervention, confirmed this and stated its intent to terminate the lease and regain control over the property as soon as possible in a decontaminated condition. ESIR stated that it expects the matter of the lease to be settled in its favour and that it intends to be on, and in control of, the property and the existing built assets for the foreseeable future. While the Commission accepts that it does not have jurisdiction over the matter of the lease, the Commission, in issuing a licence under the NSCA for a certain period, must have some certainty that the licensee will be present and able to fulfill its obligations under the licence for that period of time.

For these reasons, and because of the Commission's concern about the lack of an acceptable decommissioning financial guarantee and uncertainty about the future uses of the facility (as discussed in section 3.2 above), the Commission does not accept the proposed 1-year licence term. The Commission therefore decided to deny the proposed decontamination activities and issue the licence for a term of 8 months. This limited short-term licence is to be viewed as a form of bridge to allow ESIR to maintain the site while resolving a number of legal and business issues as quickly as possible and to bring forward to the Commission, at a future public hearing, a complete licence application for specific planned activities.

### **3.10 Cost Recovery**

With respect to the payment of cost recovery fees in accordance with the *Cost Recovery Fees Regulations*<sup>6</sup>, CNSC staff reported that ESIR's payment for the 4<sup>th</sup> quarter of 2005 remains outstanding.

The Commission is therefore not satisfied that ESIR is compliant, at this time, with the regulatory requirements in respect of its licensing fees. The Commission requires that all fees be paid when and as required.

## **4. Conclusion**

The Commission has considered the information and submissions of ESIR, CNSC staff and an intervenor (Westco) as presented in the material available for reference on the record.

The Commission is satisfied that, in respect of a licence that would only allow for the care and maintenance of the facility in a secure shutdown state, ESIR is qualified to carry on those activities. The Commission is also satisfied that ESIR, in carrying out those activities, will make adequate provision for the protection of the environment, the health and safety of persons and the maintenance of national security and the measures required to implement international obligations agreed to by Canada.

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<sup>6</sup> SOR/2003-212

The Commission therefore issues, pursuant to section 24 of the *Nuclear Safety and Control Act*<sup>7</sup>, the Fuel Facility Operating Licence for the ESIR facility (otherwise known as the Earth Science Extraction Company facility) located in Calgary, Alberta.

The Commission includes in the licence the conditions recommended by CNSC staff in the draft licence attached to CMD 05-H33.A, with the exception of the proposed conditions in section 4 of the draft licence (Decontamination). Those licence conditions related to decontamination are not added to the licence.

Marc A. Leblanc  
Secretary,  
Canadian Nuclear Safety Commission

Date of decision: November 30, 2005

Date of release of Reasons for Decision: January 12, 2006

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<sup>7</sup> *Supra* note 2.