



Canadian Nuclear  
Safety Commission

Commission canadienne  
de sûreté nucléaire

## Record of Proceedings, Including Reasons for Decision

In the Matter of

Applicant Shield Source Inc.

Subject Renewal of the Nuclear Substance Processing  
Facility Operating Licence pursuant to Section  
25 of the *Nuclear Safety and Control Act*

Hearing Date December 23, 2013

## **RECORD OF PROCEEDINGS**

Applicant: Shield Source Inc.

Address/Location: 925-211C Airport Road,  
Cavan Monaghan, Ontario K9J 0E7

Purpose: Renewal of the Nuclear Substance Processing Facility  
Operating Licence pursuant to Section 25 of the *Nuclear  
Safety and Control Act*

Application received: November 15, 2013

Date of hearing: December 23, 2013

Location: Canadian Nuclear Safety Commission (CNSC)  
280 Slater St., Ottawa, Ontario

Members present: M. Binder, Chair

Assistant Secretary: M. Leblanc  
Recording Secretary: D. Carrière

**Licence: Renewed**

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## 1.0 INTRODUCTION

1. Shield Source Inc. (SSI) operates a Class IB nuclear substance processing facility located in Peterborough, Ontario. The current Nuclear Substance Processing Facility Operating Licence, NSPFOL-12.00/2013, was issued January 1, 2013 and expires December 31, 2013. SSI requested an amendment to the current operating licence to extend its end-date by two months, from January 1, 2014 to February 28, 2014.
2. SSI previously operated a facility that processed tritium gas for the production of gas tritium light sources (GTLS) and manufacturing of radiation devices containing GTLS. In March 2012, SSI suspended its tritium gas filling operation at the facility to investigate a potential error in the calculation of total tritium emissions to air from the stack. In April 2012, SSI submitted evidence to the CNSC that its total tritium discharge monitoring data had been under-reported for several years due to an instrument error. CNSC staff reported that the health and safety of the public and the environment were not compromised. As a result, in May 2012, the Commission amended SSI's operating licence to restrict SSI from processing tritium gas for the production of GTLS, and extended the licence period to December 2012.
3. In December 2012, following CNSC staff's recommendation to allow time for SSI to complete revisions to programs and processes required to apply for a licence without restrictions, the Commission, pursuant to section 25 of the *Nuclear Safety and Control Act*<sup>1</sup> (NSCA), extended the licence period further to December 31, 2013 with the same licence restrictions.
4. In March 2013, SSI notified the CNSC of its intention to cease operations in 2013, and to apply for the Commission's approval to release the facility of regulatory control once it has been cleaned up to its intended future use. SSI discontinued the manufacture of gaseous tritium light sources in 2013. All bulk tritium and sealed tritium light sources have been shipped to licensed facilities or are packaged for shipment. SSI has completed the cleanup and decontamination of the tritium fill room, and will soon proceed to the active duct and stack removal (the final decontamination activity) after receiving authorization from CNSC staff.

### Issue

5. Pursuant to section 25 of the NSCA, the Commission may, on its own motion, renew, suspend in whole or in part, amend, revoke or replace a licence under the prescribed conditions. The conditions under which it may do so are outlined in subsection 8(2) of the *General Nuclear and Control Regulations*<sup>2</sup>.

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<sup>1</sup> Statutes of Canada (S.C.) 1997, chapter (c.) 9

<sup>2</sup> Statutory Orders and Regulations (SOR)/2000-202

## Hearing

6. Pursuant to section 22 of the NSCA, the President of the Commission established a Panel of the Commission to review the request. The Commission, in making its decision, considered information presented for a hearing held on December 23, 2013 in Ottawa, Ontario. During the hearing, the Commission considered the application letter from SSI (CMD 13-H107.1) and a written submission from CNSC staff (CMD 13-H107). The Commission notes that, while there was public interest for this facility while it was operating, public interest considerations are no longer an issue since the facility has ceased its operations.

## **2.0 DECISION**

7. Based on its consideration of the matter, as described in more detail in the following sections of this *Record of Proceedings*,

the Commission, pursuant to section 25 of the *Nuclear Safety and Control Act*, renews the Nuclear Substance Processing Facility Operating Licence, NSPFOL-12.00/2013, issued to Shield Source Inc. for its facility located in Peterborough, Ontario. The renewed licence, NSPFOL-12.00/2014, is valid until March 31, 2014.

8. The Commission includes in the licence the conditions as recommended by CNSC staff in CMD 13-H107. There have been no changes in the licence conditions, except for the expiry date.

## **3.0 ISSUES AND COMMISSION FINDINGS**

9. Since SSI's notification to CNSC staff, in March 2013, of its intention to cease operation, SSI has begun the clean-up and decontamination of its tritium processing facility. SSI requested an extension of the current licence by a period of two months in order to allow SSI time to complete the clean-up and decontamination activities and to provide their final report to CNSC staff.
10. In its submission, CNSC staff provided details on the clean-up and decontamination plan that SSI submitted to CNSC staff on October 4, 2013. CNSC staff accepted the plan on October 18, 2013. The last step of this decontamination plan is a final report to CNSC staff, planned to be submitted by December 31, 2013.
11. CNSC staff considers that a short-term licence renewal for a period of two months is not sufficient to allow CNSC staff time to review SSI's final report, perform compliance and verification activities on site, prepare a report describing the state of the building and the environment after the clean-up and decontamination of the facility is complete, and determine if the facility can be released from regulatory control. CNSC staff is of the

view that the renewal of this licence for a three-month period would be more appropriate.

12. CNSC staff proposed that the Commission renews SSI's licence on its own motion, according to Section 25 of the NSCA, on the basis that SSI not possessing a licence to possess and manage and operate the facility could pose a risk to the public and the environment since the facility may contain some residual nuclear substances. CNSC staff concluded that the short-term renewal of the current licence ensures that there will be all necessary CNSC regulatory requirements for the safe operation of SSI's facility at its current state.
13. CNSC staff reported that SSI's balance of its escrow fund as of September 30, 2013 is of \$636 653, while SSI's cost estimate of SSI's clean-up activities is \$560 982, resulting in a contingency of \$75 671. SSI has made since September 30, 2013 two requests to CNSC staff to access their escrow fund, for a total amount of \$183 618, which CNSC staff accepted. CNSC staff is of the opinion that SSI's escrow fund is sufficient to cover the clean-up of the facility.
14. The Commission determined that a three-month licence renewal would be appropriate as it would provide assurance that the clean-up activities are completed and appropriate reviews and validation by CNSC staff are completed.

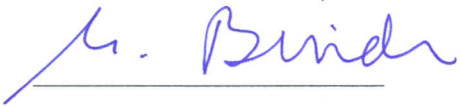
#### **4.0 CONCLUSION**

15. The Commission has considered the information and submissions from SSI and CNSC staff and is satisfied that the renewal of the licence for a three-month period, under the same terms and conditions preventing the processing of tritium gas for the purpose of producing gaseous tritium light sources without the prior approval of the Commission, is appropriate.
16. The Commission notes that it would consider the release of the SSI tritium processing facility from regulatory control once SSI has completed its clean-up and decontamination activities and once CNSC staff has completed its compliance verification activities.
17. The Commission also notes that there are unresolved issues relating to SSI's compliance with the *Cost Recovery Fees Regulations*<sup>3</sup>, and some aspects related to SSI's financial guarantee and access to decommissioning fund. The Commission is of the view, however, that the short-term licence renewal is necessary in order for SSI to remain under the Commission's regulatory control because of the remaining presence of contamination at the facility and the associated risks to the workers, the general public and the environment, and for CNSC staff to complete its review.
18. Based on the above information, the Commission, pursuant to section 25 of the NSCA, renews for a period of three months the Nuclear Processing Facility Operating Licence issued to SSI for its facility located in Peterborough, Ontario. The renewed licence,

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<sup>3</sup> SOR/2003-212

NSPFOL-12.00/2014, is valid until March 31, 2014.



Michael Binder  
President,  
Canadian Nuclear Safety Commission

DEC 23 2013

Date