



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 Application for the renewal of the Shield Source
Inc. Nuclear Substance Processing Facility
Operating Licence for a twelve-month period

Hearing
Date December 27, 2012

RECORD OF PROCEEDINGS

Applicant: Shield Source Inc.

Address/Location: 925 Airport Road, RR# 5, Peterborough, Ontario K9J 6X6

Purpose: Application for the renewal of the Shield Source Inc. Nuclear Substance and Processing Facility Operating Licence for a twelve-month period

Application received: November 22, 2011, December 5, 2011 and November 6, 2012

Date of hearing: December 27, 2012

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

Members present: M. Binder, Chair

Secretary: M. Leblanc
Recording Secretary: T. Johnston

Licence: Renewed

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Introduction

1. Shield Source Inc. (SSI) has applied to the Canadian Nuclear Safety Commission¹ (CNSC) for a one-year renewal of its Nuclear Substance Processing Facility Operating Licence (NSPFOL) for its facility located in Peterborough, Ontario. The current licence, NSPFOL-12.01/2012, expires on December 31, 2012. SSI has requested a 12-month licence extension to allow them to complete the update and creation of programs and processes prior to their application for licence renewal without process restrictions.
2. SSI has also requested that the address on their current licence be amended to 925-211C Airport Rd., Cavan Monaghan, Ontario K9J 0E7 to reflect changes imposed by Canada Post.
3. SSI has also submitted a revised financial guarantee to reflect an increase in the total cost from the current approved cost estimate of \$365,798.80 to \$845,217 in the form of an escrow agreement and financial and security access agreement.
4. Under normal conditions, SSI operates a class IB nuclear substance processing facility (NSPF) that processes tritium gas for the production of gas tritium light sources (GTLs) and manufacturing of radiation devices containing GTLSs. In March 2012, SSI suspended its tritium gas filling operations at the facility to investigate a potential error in the computer software used to calculate the data for total tritium released to air from its stack. In April 2012, a third party investigation revealed that SSI had been under-reporting their tritium emissions. SSI had exceeded the licence limit for total tritium released to air for both 2010 and 2011. CNSC staff reported, however, that the health and safety of the public and the environment were not compromised.
5. On May 2, 2012, the Commission pursuant to section 25 of the *Nuclear Safety and Control Act*², amended the Nuclear Substance Processing Facility Operating Licence, NSPFOL-12.00/2012, issued to Shield Source Inc. The amended licence, NSPFOL-12.01/2012, is valid until December 31, 2012. A condition was added to the licence at that time, which prevented SSI from processing tritium gas for the purpose of producing gaseous tritium light sources. The renewal of the licence until December 31, 2013 would be under the same condition preventing SSI from processing tritium gas.
6. CNSC staff recommended that SSI should not be allowed to process tritium until the causes for the exceedances were understood and corrected. CNSC staff concluded that SSI would meet the requirements of section 24(4) of the *Nuclear Safety and Control Act*³ (NSCA), only when not processing tritium. CNSC staff also concludes that 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 still contains nuclear substances, and therefore SSI requires a licence issued by the Commission even when not processing tritium.

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. 1997, c.9

³ Statutes of Canada (S.C.) 1997, chapter (c.) 9.

Issue

7. Pursuant to subsection 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 Safety and Control Regulations*⁴.

Hearing

8. Pursuant to section 22 of the NSCA, the President of the Commission established a Panel of the Commission to review the application. The Commission, in making its decision, considered information presented for a hearing held on December 28, 2012 in Ottawa, Ontario. During the hearing, the Commission considered written submissions from CNSC staff (CMD 12-H125) and SSI (CMD 12-H125.1).

Decision

9. 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-12.01/2012, issued to Shield Source Inc. for its facility located in Peterborough, Ontario. The renewed licence, NSPFOL-12.00/2013, is valid until December 31, 2013. SSI is prevented from processing tritium gas for the purpose of producing gaseous tritium light sources without prior approval of the Commission.

10. The Commission includes in the licence the conditions as recommended by CNSC staff in CMD 12-H125.

Issues and Commission Findings

Proposed Change to SSI's Licence Expiry Date

11. SSI's current operating licence authorizes SSI to operate a nuclear substance processing facility and to possess, transfer, use, manage and store tritium. The licence includes licence condition 2.1, which states that the licensee shall not process tritium gas for the purpose of producing gaseous tritium light sources without the prior approval of the Commission.

⁴ Statutory Orders and Regulations (SOR)/2000-202.

12. The extension of SSI's licence period by one year will allow them to complete the update and creation of programs and processes, in order to apply for a licence renewal without process restrictions.
13. CNSC staff determined that a one-year licence extension with a continued restriction on tritium gas processing would not impact the environment or the health, safety and security of workers based on information from compliance inspections at SSI since May 2012.
14. CNSC staff would request SSI to determine the various licence renewal options available depending upon whether the revisions and implementation of their programs are complete. CNSC staff would request that SSI submit its conclusions far enough in advance of the licence expiry date and to indicate when it would submit an application for the chosen option.
15. SSI submitted its final third-party root cause analysis report for the March 2012 event as requested by CNSC staff following the discovery of the tritium emissions exceedances error. CNSC staff reviewed the report and is satisfied with its content. SSI intends to provide CNSC staff with the corrective action plan and additional information regarding the root cause analysis report by January 31, 2013.⁵

Address Update

16. As indicated by Canada Post, SSI's location would no longer be valid as of November 19, 2012. SSI requested to have the address updated in the licence. CNSC staff recommended that SSI's address in the licence be updated to 925-211C Airport Road, Cavan Monaghan, Ontario K9J 0E7 to reflect this administrative change.

Proposed Amendment to SSI's Financial Guarantee

17. Following SSI's Operating Licence renewal in 2007, the Commission approved the financial guarantee in the form of an escrow agreement in the amount of \$365,798.80 and a financial security access agreement. As of September 2012, the current balance of the escrow account is \$572,677. CNSC staff reported that the proposed financial guarantee met the requirements as outlined in CNSC Regulatory Guide G-206⁶.
18. CNSC staff reported that the revised decommissioning plans submitted in November 2011 were acceptable. SSI reported that the cost estimate for decommissioning increased from \$365,798.80 to \$845, 217. CNSC staff determined that the cost increase was reasonable as the increase in the cost estimate was primarily due to projected administrative costs and the inclusion of CNSC fee estimates related to decommissioning.

⁵ CNSC staff confirmed that the corrective action plan has been received in December 2012.

⁶ CNSC Regulatory Guide G-206, *Financial Guarantees for the Decommissioning of Licensed Activities*, June 2000

19. CNSC staff stated that SSI is committed to continue with the current payment schedule of \$4000 monthly and an additional \$5000 quarterly to the decommissioning fund to ensure complete funding for the decommissioning of the facility by December 2017.
20. CNSC staff is satisfied that SSI's cost estimate for the future decommissioning is sufficient to decommission its facility. CNSC staff recommended that the Commission approve SSI's revised financial guarantee in the form of an escrow agreement for \$845,217 and a financial security and access agreement.

Application of the *Canadian Environmental Assessment Act*

21. Before making a licensing decision, the Commission must be satisfied that all applicable requirements of the *Canadian Environmental Assessment Act, 2012*⁷ (CEAA 2012) have been fulfilled.
22. CNSC staff reported that it had completed an Environmental Assessment (EA) determination under the CEAA 2012. CNSC staff stated that the proposed licence renewal with changes is not classified as a "designated project" pursuant to the *Regulations Designating Physical Activities* made under paragraph 84(a) of the CEAA 2012. Therefore, the CNSC is not considered a responsible authority pursuant to paragraph 15(a) of the CEAA 2012 and no federal EA is required.

Aboriginal Consultation

23. CNSC staff determined that the activities to be conducted under this decision will not cause an adverse impact on potential or established Aboriginal or treaty rights.

Conclusion

24. The Commission has considered the information and submissions from SSI and CNSC staff and is satisfied that the renewal of the licence for a one-year 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.
25. The Commission concurs with CNSC staff's proposed short-term licence renewal. The Commission considers that SSI meets the requirements of section 24(4) of the NSCA when not processing tritium. The Commission notes that it would consider an application for an operating licence in the context of a public hearing once SSI has completed its investigations to the satisfaction of CNSC staff and when SSI is proposing to resume its tritium gas processing operations.

⁷ S.C. 2012, c. 19, s.52

26. The Commission accepts SSI's revised financial guarantee in the amount of \$845, 217 in the form of an escrow agreement and a financial security and access agreement.
27. The Commission is satisfied that all applicable requirements of the CEAA have been fulfilled.
28. The Commission is also satisfied that aboriginal consultation is not necessary in relation to the proposed amendments.
29. Based on the above information, the Commission pursuant too section 25 of the NSCA, renews the nuclear processing facility operating licence issued to SSI. Licence NSPFOL-12.00/2013, is valid until December 31, 2013.



Michael Binder
President,
Canadian Nuclear Safety Commission

DEC 27 2012

Date