

Record of Proceedings, Including Reasons for Decision

In the Matter of

Applicant SRB Technologies (Canada) Inc.

Subject Review by the Commission of the Designated
Officer Order issued to SRBT on August 15,
2006

Hearing Date August 28, 2006

RECORD OF PROCEEDINGS

Applicant: SRB Technologies (Canada) Inc.

Address/Location: 320-140 Boundary Road, Pembroke, Ontario, K8A 6W5

Purpose: Review by the Commission of the Designated Officer Order issued to SRBT on August 28, 2006

Order issued: August 15, 2005

Date of proceeding: August 28, 2006

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

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

Secretary: M.A. Leblanc
Recording Secretary: P. Bourassa
General Counsel: J. Lavoie

Applicant Represented By	Document Number
<ul style="list-style-type: none">• S. Levesque, President• N. Morris, Senior Scientist and Principal of EcoMetrix Inc.• R. Nicholson, Senior Scientist and President of EcoMetrix Inc.• R. Osborne, Consulting Radiological Protection	CMD 06-H144.1
CNSC staff	Document Number
<ul style="list-style-type: none">• P. Thompson• P. Flavelle• H. Rabski	

Order: Amended
Date of Decision: August 30, 2006

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Introduction

1. On August 15, 2006, the Director of the Environmental Assessment and Protection Division of the Canadian Nuclear Safety Commission (CNSC¹), in her capacity as Designated Officer and pursuant to her authority under paragraph 37(2)(f) of the *Nuclear Safety and Control Act*² (NSCA), issued an Order to SRB Technologies (Canada) Inc. (SRBT). The Order required SRBT to immediately comply with specific actions and measures identified in the Order. Among other actions and measures, SRBT was ordered to cease and desist the processing and use of tritium at its nuclear substance processing facility located in Pembroke, Ontario.
2. On August 15, 2006, pursuant to subsection 37(6) of the NSCA, the Designated Officer referred the Order to the Commission for review to confirm, amend, revoke or replace the Order. The purpose of the review is to provide the person named in or subject to the Order with an opportunity to be heard and to allow the Commission to take into consideration all information and evidence that will result in a fully informed decision.
3. Pursuant to paragraph 40(1)(d) of the NSCA, the Commission provided an opportunity to be heard to SRBT, as the person subject to and named in the Order. This *Record of Proceedings* describes the Commission's consideration of SRBT's submission on the Order, the review of the Order and the reasons for the decision.
4. As a result of the Commission's need to focus on the review of the Order separately from licensing issues, and the possible impact its decision could have on SRBT's licence renewal, the Commission decided to adjourn the public licensing hearing on this matter scheduled for August 17 and October 25, 2006. This *Record of Proceedings* also describes the Commission's consideration of the licensing process in addressing issues raised during the review.

Issues

5. In its review of the Order, the Commission was required to confirm, amend, revoke or replace the Order, pursuant to subsection 37(6) of the NSCA.

Proceeding

6. Pursuant to section 22 of the NSCA, the President of the Commission established a Panel of the Commission to review the Order.
7. The Panel of the Commission (hereafter referred to as the Commission), in making its decision, considered information presented for a proceeding held on August 28, 2006 in Ottawa, Ontario. During the proceeding, the Commission considered a written submission from SRBT (CMD 06-H144.1), the Designated Officer Order, including information referred to in the Order and heard

¹ 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.

² S.C. 1997, c. 9.

oral presentations from SRBT and CNSC staff.

8. The Commission received a written submission concerning the Order from employees of SRBT on August 25, 2006. The Commission did not accept the submission as part of the proceeding on the basis that the employees of SRBT were not the subject of the Order.
9. The Commission also received a request for an opportunity to be heard from the Concerned Citizens of Renfrew County (CCRC) on the basis that it was named in the Order. In consideration of this request, the Commission noted that the CCRC had been referred to in the Order but was not the subject to the Order. In this regard, the Commission determined to deny the request for an opportunity to be heard and did not to consider the written submission from CCRC.
10. The Commission notes that SRBT employees and CCRC will have an opportunity to file submissions and make oral presentations in the context of the upcoming public hearing pertaining to the licensing of SRBT.
11. The proceeding was conducted in accordance with Part 6 of the *Canadian Nuclear Safety Commission Rules of Procedure*³. The President of the Commission decided that it would not be prejudicial to SRBT and would be in the public interest to carry out the proceeding in a public forum and thus the public was invited to observe the proceeding.

Decision

12. 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 subsection 37(6) of the NSCA, amends the Designated Officer Order issued to SRBT on August 15, 2006.

13. The Commission amends Part 2, item 1 of the Order as follows:

SRBT is permitted to process and use tritium that is required for, associated with or arises from the operation of the nuclear substance processing facility located at 320-140 Boundary Road, Pembroke, Ontario under the operational parameters set out in its current licence NSPFOL-13.01/2006.

SRBT shall not process or use tritium in the manner described above during the occurrence of any type of precipitation, including rain, drizzle, freezing drizzle, freezing rain, hail and snow.

³ SOR/2000-211.

14. The Commission revokes Part 2, item 2, given the amendment to part 2, item 1 of the Order.
15. The Commission amends Part 2, item 3 of the Order as follows:

SRB Technologies (Canada) Incorporated shall, by September 25, 2006, submit in writing to the Commission for consideration by the Commission at the Day One licensing hearing scheduled for October 25, 2006, a detailed report describing the specific actions and measures that will be taken to: identify all the sources of groundwater contamination; contain those sources of groundwater contamination; prevent or mitigate further direct contamination of the soil and groundwater under the stacks; and remediate the contaminated groundwater.

16. The Commission amends Part 2, item 4 of the Order as follows:

SRB Technologies (Canada) Incorporated shall, by September 25, 2006, submit for consideration by the Commission at the Day One licensing hearing scheduled for October 25, 2006, an implementation plan and schedule for the actions described in the report identified in Part 2, item 3 of the Order, as amended above.

17. The Commission amends Part 2, item 5 of the Order as follows:

Prior to implementation, the plan and schedule shall be approved by the Commission.

18. The Commission confirms Part 2, items 6 and 7 of the Order.

Issues and Commission Findings

19. In reviewing the Order under subsection 37(6) of the NSCA, the Commission considered the reasonableness of the Order. In this regard, the Commission considered the actions and measures identified in Part 2 of the Order and the information on which the Order was based, as identified in Part 3 of the Order. In this regard, and as elaborated further below, the Commission is satisfied that the Designated Officer, based on the information available, had sufficient evidence and a reasonable basis for issuing an Order to protect the environment until the matter could come before the Commission.
20. After having made its decision on the Order, the Commission also made decisions in respect of the licensing process regarding the application by SRBT for the renewal of its operating licence.

Actions and Measures of the Order

Item 1, Part 2 of the Order

21. During its opportunity to be heard, SRBT sought to have item 1, Part 2 of the Order revoked or amended so that it could continue to process and use tritium at its facility in Pembroke. SRBT

made this request on the basis that the continued operation of the facility did not pose an unreasonable risk to the environment. In support of this claim, SRBT provided an analysis of groundwater data in the vicinity of the facility. SRBT considers that the analysis demonstrates there is sufficient travel time during groundwater migration to allow decay of tritium, which is the decrease of the quantity of radioactive material, to levels below the *Guidelines for Canadian Drinking Water Quality*⁴ before it reaches the bedrock. This would apply even at the high levels of tritium found at the surface and in a relatively shallow well located in the vicinity of the facility.

22. Considering that rainfall is at least a partial determinant of the amount of tritium deposited on the ground near the stacks and hence tritium concentration expected in groundwater, SRBT also stated that it would be prepared to operate only during non-rainy days, as a further measure to decrease the level of tritium found near the stacks.
23. Furthermore, SRBT provided evidence that its average weekly tritium gas (HT) and tritium oxide (HTO) releases have consistently decreased in the past several years and significantly decreased since the facility has been operating under the restrictive operational parameters of its current licence issued in November 2005. As a result, SRBT expressed its expectation that the level of tritium contamination in the groundwater will eventually decrease as well.
24. The Commission notes the significant progress made by SRBT to decrease its emissions during the past several years. Based on this consideration and the information presented in the course of the proceeding, the Commission is satisfied that the continued limited operation of the facility, under the restrictive operational parameters of its current licence and only during periods of no precipitation, will not exacerbate, in the time left to the licence, the risk to the environment. The Commission notes that SRBT will be coming before the Commission in the context of a two-day public hearing in the upcoming months and that the issues related to SRBT's qualifications and the provisions it makes to protect the environment will be further considered at that time.
25. Therefore, the Commission amends item 1, Part 2 of the Order to allow SRBT to operate under the restrictive parameters set out in its existing licence, and only during periods of no precipitation.
26. In order to verify compliance with the operational restrictions, the Commission requests that SRBT keeps an operations log book in which exact operating schedules and actual operating times will be recorded. In this respect, the Commission requests that CNSC staff undertake frequent inspections of the facility to verify compliance with the Order. The Commission further requests CNSC staff to inform the Commission immediately if there is non-compliance with respect to the operational restrictions on SRBT, including any non-compliance with the Order.

Items 3, 4 and 5, Part 2 of the Order

27. The Commission agrees with the requirements of the Order that SRBT develops a detailed report describing the prevention or mitigation of further contamination of the groundwater under the stacks. Furthermore, the Commission also requests that SRBT includes in the report a plan to

⁴ Guidelines for Canadian Drinking Water Quality, prepared by the Federal-Provincial-Territorial Committee on Drinking Water of the Federal-Provincial-Territorial Committee on Health and the Environment, dated March 2006.

identify, track and contain the sources of groundwater contamination and a plan to remediate the contaminated site.

28. In consideration of the importance to expeditiously address the current tritium contamination levels in the groundwater, the Commission further requests that the report be submitted in time for consideration at Day One of the licence renewal hearing. Accordingly, the report shall be filed with the Secretariat of the Commission by September 25, 2006 to be considered by the Commission during the licensing hearing.
29. Therefore, the Commission amends items 3, 4 and 5, Part 2 of the Order accordingly.
30. The Commission expects to receive CNSC staff's recommendations on SRBT's report and implementation plan in the form of supplementary information to be submitted for consideration on Day One of the licensing hearing.

Basis of the Order

31. The Commission considered the information on which the Order was based, as identified in Part 3 of the Order.
32. SRBT submitted that it is committed to the protection of the environment and protection of groundwater resources. In this respect, SRBT noted the reduction in emissions achieved over the last few years and the recent introduction of additional mitigation measures.
33. Although the Commission recognized SRBT's recent efforts with respect to reducing emissions, the Commission noted that these efforts appear to have been initiated as a result of compliance actions from CNSC. The Commission expressed the view that there is a responsibility on the part of the licensee to ensure the protection of the environment. In this regard, the Commission made reference to the CNSC Regulatory Policy P-223, Protection of the Environment that states that the licensee must demonstrate through performance assessments, monitoring or other evidence that the provisions to protect the environment are adequate.
34. The Commission also considered the possibility that mechanisms other than atmospheric dispersion are contributing to the groundwater contamination, as submitted by CNSC staff. Furthermore, the Commission considered that SRBT is using the environment as containment wherein the contamination in the groundwater is no longer in the control of the licensee.
35. Based on the above information, the Commission agrees with CNSC staff's conclusions that SRBT has failed to take all reasonable precautions to protect the environment and has not taken all reasonable precautions to control the release of a radioactive nuclear substance into the environment.
36. The Commission notes that, based on the levels of tritium found during the course of the groundwater study carried out over the last several months, the SRBT facility operation could be having an impact on the environment. Furthermore, there was no systematic method available at

the time to verify this level of impact, and thus immediate action was necessary and appropriately taken by the Designated Officer in issuing the Order. The Commission determines that CNSC staff's action was taken based on evidence available at that time, including uncertainties with respect to the migration of the groundwater and the possible unknown source of tritium contamination.

37. The Commission concludes that the Order as issued, and based on the information available at that time, was appropriate. The Commission wishes to reinforce the duty of the Designated Officer to fulfill the CNSC's mandate to protect the environment and the health and safety of the public. As seen appropriate by the Designated Officer, this includes the power to issue orders.
38. However, based on the evidence presented and the steps being taken by the licensee, the Commission is of the view that it is appropriate to amend the Order. The Commission, in making this decision, recognizes that the upcoming licensing hearing will provide a more comprehensive forum to assess the qualifications of the licensee to carry on the licensed activities and whether it is taking adequate provisions to protect the environment.
39. The Commission is satisfied that the Order, as amended, reflects the urgent need for SRBT to address the issues related to the contamination of the groundwater. The Commission is also satisfied that sufficient measures are in place to ensure that the effects on the environment would not be exacerbated within the short time remaining in the current licence. In addition, the Commission is of the view that during this time and in the context of the upcoming public hearing, uncertainties on the effects to the environment will be further clarified.

Licensing Process

40. In considering the information provided in the course of this proceeding, the Commission has determined that many of the issues raised, such as those noted in paragraphs 22 and 33, can be more adequately dealt with in the context of a public hearing. Therefore, the Commission has set the dates of the two-day public hearing to consider the renewal of SRBT's operating licence on October 25 and November 27, 2006. The Commission notes that a Notice of Public Hearing will be published to provide further details on the public hearing process. The re-scheduling of the hearing follows the Notice of Adjournment published on August 15, 2006.
41. The Commission also is of the view that consideration of the issues raised in the context of a public hearing will allow the public, as intervenors, the opportunity to express their views and thus enhance the information provided in the course of the hearing and considered by the Commission when making its decision on the licensing of this facility.

Conclusion

42. The Commission has considered the information and submission of SRBT and the CNSC staff as presented in the material available for reference on the record for the proceeding.

43. The Commission notes that the Order issued to SRBT on August 15, 2006 was reasonable at the time of issuance, based on the information available to CNSC staff at that time.
44. However, in consideration of further information provided in the course of this proceeding, the Commission has determined that there will not be an unreasonable risk to the environment if SRBT is allowed, in the time left to the current licence, to operate under restrictive operational parameters set out in the existing licence and amended Order.
45. As part of this determination, the Commission also considers that SRBT's current licence expires on November 30, 2006. SRBT will need to demonstrate at a public hearing that it has the qualifications to carry out the activities associated with the operation of its processing facility and that it will make adequate provisions to protect the environment when carrying out these activities beyond November 30, 2006.
46. Therefore, the Commission, pursuant to subsection 37(6) of the NSCA, amends the Designated Officer Order issued to SRBT on August 15, 2006 in the manner described in this *Record of Proceedings*.

Linda J. Keen
President,
Canadian Nuclear Safety Commission

Date of decision: August 30, 2006

Date of release of Reasons for Decision: September 5, 2006