



Canadian Nuclear
Safety Commission

Commission canadienne
de sûreté nucléaire

Record of Proceedings, Including Reasons for Decision

In the Matter of

Applicant Saskatchewan Research Council

Subject Request for an Environmental Assessment and
Licensing Decision for the Gunnar Remediation
Project

Public Hearing
Date November 6, 2014

RECORD OF PROCEEDINGS

Applicant: Saskatchewan Research Council

Address/Location: #125-15 Innovation Blvd., Saskatoon SK, S7N 2X8

Purpose: Request for an Environmental Assessment and Licensing Decision for the Gunnar Remediation Project

Application received: November 30, 2013

Date of public hearing: November 6, 2014

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

Members present: M. Binder, Chair
A. Harvey
D. D. Tolgyesi
R. Velshi

Secretary: M. Leblanc
Recording Secretary: M. Hornof
General Counsel: L. Thiele

Applicant Represented By	Document Number		
<ul style="list-style-type: none"> • J. Muldoon, Vice-President, Environment Division • I. Wilson, Remediation Manager, Environment Division • A. Klyashtorin, Senior Environmental Scientist 	CMD 14-H5.1 CMD 14-H5.1A		
CNSC staff	Document Number		
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> • D. Newland • D. Howard • N. Frigault • K. Lange </td> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> • R. Jammal • K. Mann • P. Thompson • A. Gaw </td> </tr> </table>	<ul style="list-style-type: none"> • D. Newland • D. Howard • N. Frigault • K. Lange 	<ul style="list-style-type: none"> • R. Jammal • K. Mann • P. Thompson • A. Gaw 	CMD 14-H5 CMD 14-H5.A
<ul style="list-style-type: none"> • D. Newland • D. Howard • N. Frigault • K. Lange 	<ul style="list-style-type: none"> • R. Jammal • K. Mann • P. Thompson • A. Gaw 		
Other contributors	Document Number		
<ul style="list-style-type: none"> • Saskatchewan Ministry of Economy : H. Sanders • Saskatchewan Ministry of Environment: B. Pollock 			
Intervenors	Document Number		
See appendix A			

Environmental Assessment Report: Accepted
Licence: Issued

Table of Contents

1.0	INTRODUCTION	1
2.0	DECISION	4
3.0	ISSUES AND COMMISSION FINDINGS	7
3.1	EA Report Consideration	7
3.1.1	<i>Completeness of the EA Report</i>	7
3.1.2	<i>Adequacy of the Assessment Method</i>	8
3.1.3	<i>Likelihood and Significance of Environmental Effects</i>	9
3.1.4	<i>Conclusion on the EA Report</i>	27
3.2	Licensing	28
3.2.1	<i>Management System</i>	28
3.2.2	<i>Human Performance Management</i>	29
3.2.3	<i>Safety Analysis</i>	31
3.2.4	<i>Radiation Protection</i>	32
3.2.5	<i>Conventional Health and Safety</i>	33
3.2.6	<i>Environmental Protection</i>	34
3.2.7	<i>Emergency Management and Fire Protection</i>	36
3.2.8	<i>Waste Management</i>	37
3.2.9	<i>Security</i>	37
3.2.10	<i>Safeguards</i>	38
3.2.11	<i>Packaging and Transport</i>	38
3.2.12	<i>Aboriginal Engagement and Public Information</i>	38
3.2.13	<i>Financial Guarantee</i>	44
3.2.14	<i>Nuclear Liability Insurance and Cost Recovery</i>	46
3.2.15	<i>Licence Length and Conditions</i>	46
4.0	CONCLUSION	47

1.0 INTRODUCTION

1. The Saskatchewan Research Council (SRC) has applied to the Canadian Nuclear Safety Commission¹ (CNSC) for the issuance of a Waste Nuclear Substance Licence (WNSL) for its Gunnar Remediation Project (the project) located in Northern Saskatchewan. The SRC has requested a licence for a period of 10 years.
2. The former Gunnar Legacy Uranium Mine site was operated by Gunnar Mining Limited from 1955 to 1963. The site officially closed in 1964 with minimal decommissioning. The former Gunnar Mine and Mill site consisted of open and underground mine pits, three mine tailings deposits covering over 70 hectares of land, and waste rock piles. The Commission exempted the Gunnar site from section 26 of the *Nuclear Safety and Control Act*² (NSCA) requirement to be under a licence for the possession, management and storage of nuclear substances until December 31, 2016, to allow the Saskatchewan Government (through the SRC) adequate time to conduct an environmental assessment (EA) and apply for a licence.
3. The requested WNSL will allow the remediation of the various site components within a series of phased work plans. The work at the site is planned to be divided into three phases with two hold points for the authorization of Phases 2 and 3:
 - Phase 1: Activities including continued monitoring and maintenance of the site, additional site investigation and remediation design, construction of infrastructure, and mobilization of heavy equipment.
 - Phase 2: Activities related to the remediation of the site (i.e. covering of tailings areas, waste rock management, and demolition debris management).
 - Phase 3: Long term monitoring and surveillance of the site.
4. The conditions with which the proponent of the designated project must comply are set out in the licence and further explained in the Licence Conditions Handbook (LCH). CNSC staff has recommended delegation of authority in the LCH delegating from the Commission to the Director General of the Directorate of Nuclear Cycle and Facilities Regulation and to the Executive Vice President of the Regulatory Operations Branch the authority to authorize the SRC to proceed to the next phase of remediation upon acceptance of the documentation listed in the LCH under each licence condition (2.1 to 2.7).
5. In 2010, a CNSC designated officer issued order 10-1 to the SRC to take down and secure physical structures at the Gunnar site that posed a safety risk. Other past activities at the Gunnar site have included characterization of site components, and the management of the conventional and hazardous wastes generated during the demolition

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

of all buildings on site. As a result of CNSC Order 10-1, site demolition was removed from the scope of the EA. Disposal of the demolition debris, however, was included in the EA. Under the requested WNSL, work at the Gunnar site for Phases 1 and 2 will likely take place between 2015 and 2020, with the final phase of the proposed project including monitoring and surveillance until such time that the site is contemplated for transfer from CNSC oversight into the Saskatchewan Institutional Control Program (ICP).

6. Before the CNSC can make a licensing decision with respect to the proposed project and pursuant to the NSCA, it must, in accordance with the requirements of the *Canadian Environmental Assessment Act, 2012*³ (CEAA 2012), make a decision on the *Environmental Assessment Report* (EA Report) for the project. The Commission is the sole responsible authority⁴ (RA) for the EA. Natural Resources Canada (NRCan), Transport Canada (TC), Fisheries and Oceans Canada (DFO), Health Canada (HC), and Environment Canada (EC) identified themselves as federal authorities (FAs) for the purpose of providing expert assistance to CNSC staff during the EA. The proposed project was also designated under the *Saskatchewan Environmental Assessment Act*⁵ (SEAA) with the proposed EA Report reviewed and approved by the Province of Saskatchewan on August 20, 2014.
7. As required under sections 15 and 16 of the CEAA 1992⁶, the *Project-Specific Guidelines Scoping Document* (PSGSD) for the proposed project, including statements for the scope of the project and scope of the assessment, were prepared by CNSC staff. In September 2008, the Commission approved and issued the PSGSD to the SRC for the development of an Environmental Impact Statement (EIS). In 2012, after the CEAA 2012 came into force, the federal Minister of the Environment, pursuant to subsection 125(7) of CEAA 2012, provided that the EA of the project be continued under the CEAA 2012. The proposed EA Report was developed based on the review of the EIS and on technical studies submitted by the SRC. The EA Report is attached as an appendix to CMD 14-H5.
8. If the WNSL is issued to the SRC, CNSC staff recommends that the Commission revokes the exemption under Section 26 of the NSCA from the requirement for the SRC to hold a licence for the possession, management and storage of nuclear substances at the Gunnar Legacy Uranium Mine site.
9. In 2008, funding to participate in the EA for the proposed project was made available to the public, Aboriginal groups and not-for-profit organizations through the Canadian Environmental Assessment Agency's Participant Funding Program (PFP). Four participants were awarded up to \$20,000. In December 2013, the CNSC announced that through its own PFP, up to \$25,000 would be awarded to assist members of the public, Aboriginal groups, and other stakeholders to participate in the Commission's

³ S.C. 2012, c. 19, s. 52.

⁴ Responsible Authority in relation to an EA is determined in accordance with paragraph 15(a) of the CEAA 2012.

⁵ Ch. E-10.1 of the *Statutes of Saskatchewan, 1979-80*.

⁶ S.C. 1992, c. 37. This was the governing EA legislation when the project was first proposed.

public hearing for the approval of the proposed EA Report and licence application, and to review licensing documentation related to the licence application. Five applicants were awarded up to \$35,250, above the original \$25,000 award.

Issues

10. In considering the *Environmental Assessment Report*, the Commission was required to decide:
 - a) whether the EA Report is complete; that is, whether all of the factors and instructions set out in the approved PSGSD and subsection 52(1) of the CEEA 2012 were adequately addressed;
 - b) whether the project, taking into account the mitigation measures identified in the EA Report, is likely to cause significant adverse environmental effects referred to in subsections 5(1) and 5(2) of the CEEA 2012;
 - c) whether the project must be referred to the Minister of the Environment for referral to a review panel or mediator, pursuant to paragraph 52(3) of the CEEA 2012; and
 - d) whether the Commission may proceed with its consideration of an application for a licence under the NSCA, consistent with paragraph 56(1) of the CEEA 2012.

11. In considering the application for a licence, the Commission was required to decide, pursuant to subsection 24(4) of the NSCA:
 - a) if the SRC is qualified to carry on the activity that the licence would authorize; and
 - b) if, in carrying on that activity, the SRC 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

12. The Commission, in making its decision, considered information presented at a public hearing held on November 6, 2014 in Ottawa, Ontario. The public hearing was conducted in accordance with the *Canadian Nuclear Safety Commission Rules of Procedure*⁷. During the public hearing, the Commission considered written

⁷ Statutory Orders and Regulations (SOR)/2000-211.

submissions and heard oral presentations from CNSC staff (CMD 14-H5, CMD 14-H5.A) and the SRC (CMD 14-H5.1, CMD 14-H5.1A) for the WNSL application filed by the SRC, and the EA Report for the proposed project. The Commission also considered oral and written submissions from five intervenors (see Appendix A for a detailed list of interventions). The hearing was webcasted live via the CNSC Web site, and video archives are available for a three-month period following this decision.

Mandate of the Commission

13. The Commission states that it has the independence necessary to fulfill its mandate and that the process in place to obtain the information necessary for making informed decisions is open and transparent. The Commission, as a quasi-judicial administrative tribunal, considers itself independent of all political, governmental or private sector influence in its decision-making.
14. Several intervenors stated that employment and procurement commitments should be guaranteed to local First Nations through conditions in the licence. The Commission notes that, as the regulatory authority over nuclear matters in Canada, its mandate is not to evaluate and regulate procurement contracts, but to ensure, in accordance with the NSCA, the regulation of the development, production and use of nuclear energy, and the possession and management of nuclear substances, to prevent unreasonable risk to the environment and to the health and safety of persons. The subject of procurement and employment guarantees, or the consideration of the economic benefits of a project, are not within the Commission's authority.
15. In their interventions, the Fond du Lac and Black Lake Denesuline First Nations representatives requested that the licence conditions and the LCH address:
 - Aboriginal and socio-economic concerns, including employment contracts;
 - Commitments to project employment and procurement for the Fond du Lac and Black Lake Denesuline First Nations communities;

The Commission indicated its appreciation for the intervention but notes here that such economic considerations fall beyond the mandate of the CNSC and cannot be included in the licence conditions or the LCH.

2.0 DECISION

16. Based on its consideration of the matter, as described in more detail in this *Record of Proceedings*, the Commission decides that:

- a) the *Environmental Assessment Report* appended to CMD 14-H5 is complete; that all of the factors and instructions set out in the approved *Project-Specific Guidelines Scoping Document* and subsection 52(1) of the CEEA 2012 were adequately addressed during the assessment;
- b) the project, taking into account the mitigation measures identified in the *Environmental Assessment Report*, is not likely to cause significant adverse environmental effects;
- c) it will not refer the project to the Minister of the Environment for referral to a review panel or mediator, pursuant to 52(3) of the CEEA 2012; and
- d) it will proceed to consider Saskatchewan Research Council's application for a licence under the provisions of the *Nuclear Safety and Control Act*, consistent with paragraph 56(1) of the *Canadian Environmental Assessment Act, 2012*.

17. 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 the SRC is qualified to carry on the activity that the licence will authorize. The Commission is of the opinion that the SRC, 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*, issues to the Saskatchewan Research Council a Waste Nuclear Substance Licence for its Gunnar Remediation Project located in Northern Saskatchewan. The new licence, WNSL-W5-3151.00/2024, is valid from January 14, 2015 to November 30, 2024. Furthermore, concurrent with the coming into effect the new Waste Nuclear Substance Licence, the Commission revokes the exemption under Section 26 of the *Nuclear Safety and Control Act* from the requirement to hold a licence for the possession, management and storage of nuclear substances at the former Gunnar Legacy Uranium Mine site.

18. The Commission includes in the licence the conditions as recommended by CNSC staff and set out in the draft licence attached to CMD 14-H5.

19. The Commission directs CNSC staff to make the following changes to the LCH:

The proposed LCH provision 3.1 is modified as follows:

“The licence is issued by the Commission pursuant to section 24 of the *Nuclear Safety and Control Act*. In the case of the Gunnar site, with the exception of approval to proceed to Phase 2 and 3 licensed activities, delegation of authority by the Commission applies to the following staff:”

and

“the SRC cannot proceed with any Phase 2 activities until all documents listed below as supporting Phase 2 have been accepted by the CNSC. Upon submission and acceptance by the Commission at a public proceeding of the documentation necessary to demonstrate that the SRC can remediate the Gunnar site in compliance with the NSCA, the SRC can proceed with Phase 2 activities. The necessary documentation is listed below as “Licensing Basis Documents”.

20. The Commission directs CNSC staff to include dates for the “Effective Date” column in the *Documents that Require Version Control* tables.
21. The Commission does not confirm the delegation from the Commission to the Director General of the Directorate of Nuclear Cycle and Facilities Regulation and the Executive Vice President of the Regulatory Operations Branch, of the authority to authorize the SRC to proceed to the next phase of remediation upon acceptance of the documentation listed in the LCH under each licence condition. Approval for proceeding with Phase 2 of the Gunnar Remediation project will be decided at a Commission proceeding and is currently tentatively planned for October 2015, in conjunction with the presentation of the 2014 uranium fuel cycle facilities annual report, with the opportunity for written submissions from intervenors.
22. The Commission accepts CNSC staff’s recommendation regarding the delegation of authority in the LCH for all matters other than as detailed in paragraph 21. The Commission notes that CNSC staff can bring any matter to the Commission as applicable. The Commission directs CNSC staff to inform the Commission on an annual basis of any changes made to the LCH.
23. With this decision, the Commission directs CNSC staff to provide annual reports on the performance of the Gunnar Remediation Project as part of the uranium fuel cycle facilities annual report. CNSC staff shall present these reports at public proceedings of the Commission.

3.0 ISSUES AND COMMISSION FINDINGS

24. With regards to the EA Report, the Commission addressed these four issues: (1) the completeness of the EA Report, (2) the adequacy of the assessment method, (3) the likelihood and significance of environmental effects, and (4) the nature and level of public concern. The Commission's findings in each of these areas are summarized below.
25. In making its licensing decision, the Commission considered a number of issues related to the SRC'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.
26. The findings of the Commission presented below are based on the Commission's consideration of all of the information and submissions available for reference on the record for the public hearing.

3.1 EA Report Consideration

3.1.1 Completeness of the EA Report

27. In its consideration of the completeness of the EA Report, the Commission considered whether the assessment had adequately addressed and appropriately defined the scope of the project and the assessment factors, and all of the other requirements of the CEAA 2012.
28. The proposed project involves the long term mitigation of residual public safety and environmental health risks posed by the abandoned Gunnar site. In 2010, pursuant to CNSC Order 10-1, the SRC conducted the demolition of buildings and structures at the site which were considered to pose a potential risk to public safety, and secured on-site hazardous substances and materials.
29. CNSC staff reported that they had assessed the proposed project's effects on the environment, considering the activities related to the normal operations, and the effects of possible malfunctions and accidents. They had also considered effects of the environment on the proposed project.
30. CNSC staff further reported that the EA Report had been developed based on the review of the SRC's EIS and technical studies, in accordance with the approved PSGSD.

31. The EA Report includes:
 - a detailed description of the project;
 - an analysis of the project impacts;
 - a description of the existing environment;
 - a description of the scope of the assessment;
 - an environmental effects assessment;
 - alternatives to the proposed project;
 - a description of public and government participation; and
 - a plan for a follow-up program.
32. CNSC staff noted that the EA was a joint federal and provincial process, and that the Saskatchewan Ministry of the Environment (SME) approved the provincial EA under the SEAA on August 20, 2014.
33. Based on the Commission's review of the EA Report, the Commission concludes that all of the required factors were addressed during the assessment.
34. The Commission will not refer the project to the Minister of the Environment on the basis of uncertainty in the assessment of the environmental effects.
35. The Commission concludes that it is complete and in accordance with the requirements of the CEAA 2012. The Commission is therefore able to proceed to its consideration of the adequacy of the assessment method, the likelihood and significance of the environmental effects of the project including the adequacy of the proposed mitigation measures, and the public concerns about the project.

3.1.2 Adequacy of the Assessment Method

36. CNSC staff confirmed that in its EIS, the SRC followed the structure outlined in the PSGSD approved by the Commission in September 2008.
37. CNSC staff noted that the assessment of the direct and indirect effects of the project had been carried out in a step-wise manner, including the following steps:
 - Identifying potential interactions between the project and the environment;
 - Determining if each interaction is likely to result in a measurable adverse change to the environment;
 - Identifying measures to mitigate the environmental effects; and
 - Determining the significance of residual environmental effects.
38. CNSC staff explained that each project-environment interaction was assessed using criteria such as regulatory standards and guidelines, existing conditions, scientific literature, and professional judgement to determine whether they were likely to result in a measurable change to the environment. Each potential adverse effect resulting from a measurable change in the environment was considered to identify, where appropriate, possible means of mitigation to eliminate, reduce or control the effect.

39. CNSC staff noted that the final remediation options for some site aspects have not yet been selected. However, possible remediation options have been identified and are included in the remediation options decision tree framework. The Commission noted that the SRC has indicated preferred remediation options in the remediation options decision tree, and enquired about how the SRC is prepared to manage a change to these preferred options should regulatory approval for a preferred option not be given by the CNSC. The SRC representative responded that, as part of the EA process, the SRC consulted with the CNSC with respect to the remediation options. However, due to possible unknowns at the site, the SRC indicated that the preferred options are subject to change after the detailed engineering design during Phase 1 of the project.
40. The Commission enquired about the top three issues that the SRC considers being risks to meeting project objectives and about how the Gunnar site compares to the Lorado site. The SRC representative stated that having enough material to properly cover the tailings is considered to be a key issue for this project. Additionally, the Gunnar site is much larger and significantly more isolated than the Lorado site and, as such, greater challenges will be encountered in equipment and worker mobilization during this project. The SRC also wants to ensure that benefits to local communities are maximized and, while it considers this to be a challenge, it is also an area for continuous improvement.
41. With respect to the adequacy of consultation, CNSC staff reported that the CNSC, the SME and the SRC have been in active communication with residents of the Athabasca region since 2004. Communication with Aboriginal groups and the public has included public meetings, CNSC staff presentations, SRC-led Athabasca community tours, letters, e-mails and phone calls at key points in the process. Opportunities for public participation, including the PFP, were provided during the EA and licensing process.
42. CNSC staff added that the proposed EA Report was available for public review for 60 days prior to the public hearing.
43. The Commission is satisfied that the method used to consult during the EA, including opportunities to comment and review on the EA Report, is acceptable and provides a suitable basis for the Commission to evaluate the public concerns about the project. The Commission's findings on public concerns are discussed further in the section below entitled Nature and Level of Public Concern (see paragraph 134). Based on its review of the EA Report and the above information, the Commission concludes that the EA methods are acceptable and appropriate, that all of the required factors were addressed during the assessment, and that the EA Report is complete and compliant with the requirements of the CEEA 2012.

3.1.3 Likelihood and Significance of Environmental Effects

44. This section contains the Commission's findings with respect to whether the project, taking into account the identified mitigation measures, is likely to cause significant adverse environmental effects. In examining this question, the Commission considered the predicted effects on the relevant components of the environment.

Effects of the Project on the Environment

45. CNSC staff reported that interactions between the environmental components and the project works are illustrated in the proposed EA Report. CNSC staff added that these interactions were analyzed to determine whether they are likely to result in a measurable effect and, if so, to describe that effect on the relevant Valued Ecosystem Components (VECs). A description of each interaction and an assessment of the potential effects are described in detail in section 9 of the proposed EA Report.
46. CNSC staff noted that the potential effect that the project is likely to have on the environment is based on the SRC's EIS, expert advice provided by FAs, and cooperative review with the provincial government, Aboriginal communities, and the public.
47. CNSC staff further reported that several constituents of potential concern (COPCs) were identified for the project. The major drivers of environmental issues, arising from historical mine operations and conditions following cessation of operations in 1964, include the waste rock piles, mine tailings deposits, the mine pit, and demolition debris.
48. CNSC staff stated that the EA evaluated the potential effects of COPCs on the following VECs:
 - aquatic biota;
 - terrestrial biota and waterfowl; and
 - vegetation.

These effects are discussed below and in detail in section 9 of the EA Report.

Atmospheric Environment

Air Quality

49. The SRC reported that, although remediation activities may emit airborne particulate matter (PM), the project has been designed so that an overall net positive effect on air quality will be realized. Mitigation measures will be implemented to minimize PM concentrations in the air.
50. CNSC staff reported that project activities, especially during Phase 2, may result in increased air contaminant emissions including radon and some PM. The project activities are also anticipated to result in direct greenhouse gas emissions. CNSC staff further reported that the predicted impact of these emissions is low. Furthermore, during the post-remediation phase of the project, relatively little air emissions will be generated.

51. CNSC staff reported that the 'mitigation by design' aspects of the project, including tailings pile shaping, capping and vegetative covering, will be implemented as part of remediation activities and will reduce emissions of radon and PM by wind erosion. CNSC staff reported on additional mitigation measures that will be used to reduce the effect that Phase 2 of the project will have on air quality. During the post-remediation phase, follow-up and mitigation measures will be implemented as required.
52. The Commission agrees with CNSC staff and concludes that the effects that the project will have on air quality will have negligible ecological, socio-economic and human health implications.

Noise Levels

53. CNSC staff reported that noise levels are predicted to be elevated within the local assessment boundary during the remediation phase of the project and that relatively little noise will be generated from the post-remediation phase of the project.
54. CNSC staff identified specific mitigation measures to reduce noise emissions during the remediation phase of the project. Measures, such as noise barriers, will be implemented as needed during the post-remediation phase.
55. The Commission agrees with CNSC staff and concludes that, with mitigation measures implemented, significant residual effects on the environment are unlikely and no significant adverse residual effects on the acoustic environment are expected to occur.

Hydrogeological Environment

56. The SRC reported that groundwater quality data for the site has been compared to the 2010 interim Tier 2 commercial/industrial guidelines developed on behalf of Environment Canada for use on federal contaminated sites. Radionuclide parameters have been compared to the 2010 Alberta Tier 1 Soil and Groundwater Remediation Guidelines.
57. CNSC staff reported that, although project activities during the remediation phase of the project have the potential to impact groundwater, including groundwater flow, the activities would result in an overall improvement in groundwater quality and a net positive effect to the project site. Furthermore, since the potential impacts of the project are generally positive or neutral, no specific mitigation measures are recommended.
58. CNSC staff further reported that the diversion of surface water flows to Zeemel Creek upstream of the waste rock pile would substantially reduce the volume of water entering the waste rock and may, therefore, result in a positive effect on groundwater quality. Other land changes may also result in a positive effect on Zeemel and Langley Bays. Since the proposed remediation works will not alter the overall site hydrogeology, no specific mitigation measures in this area are recommended.

59. The Commission requested more information about the quantity of water that is periodically released from the mine pit to Lake Athabasca. The SRC representative stated that the pit is, on average, two metres above the level of Lake Athabasca, and that water is typically released into Lake Athabasca as surface run-off in the fall and in the spring. The SRC representative added that there may be some pit water infiltration into Lake Athabasca through a water channel, but this needs to be confirmed. The Commission further enquired about water treatment technologies for the pit water. The SRC representative provided the Commission with information on how the pit could be safely dewatered.
60. The Commission asked for clarification on the current mine pit dewatering and backfilling plans. CNSC staff responded that the plans would be developed by the SRC before Phase 2 of the project and will have to be approved by the CNSC.
61. The Commission concludes that, taking into account best management practices and remediation practices proposed by the SRC as outlined in the EA Report, the project is not likely to cause significant adverse environmental effects to groundwater and the hydrogeological environment.

Aquatic Environment

Surface Water and Sediment Quality

62. CNSC staff reported that completion of the project will result in a higher quality of surface water released to Lake Athabasca (i.e. St. Mary's Channel, Zeemel Bay, Langley/Back Bay), higher lake sediment quality in the long term, reduced exposures to COPCs (to humans and other species), and improved fish habitat.
63. CNSC staff noted that although there is a potential for negative effects on surface water and sediment quality during the active remediation phase, specific mitigation measures, appropriate construction methods, and following regulatory guidance are predicted to limit sediment releases during site remediation activities. Mitigation measures could include erosion control measures, silt curtains, and the treatment of water resulting from remediation activities. Additionally, effects from air emissions and dust deposition on surface water and sediment quality will have negligible effects on adjacent habitat.
64. In its submission, the SRC indicated that the suggested site-specific remediation objectives do not apply to groundwater and surface water that passes through areas of the site that do not constitute possible important areas of biological exposures, or the pit water in its current location.
65. The Commission agrees with CNSC staff and concludes that, taking into account the mitigation measures proposed by the SRC, the project is not likely to cause significant adverse environmental effects to surface water and sediment quality.

Fish and Fish Habitat (including Aquatic Biota)

66. CNSC staff reported that during the remediation phase of the project, temporary effects to fish and fish habitat may result from remediation activities. With the implementation of appropriate mitigation measures, these temporary effects are not anticipated to cause any serious harm to, and should have negligible effects on fish and fish habitat.
67. In its intervention, the Saskatchewan Environmental Society noted a technical discrepancy in the EA documentation with respect to water and fish in the mine pit. The Commission requested clarification on whether the mine pit contains fish with elevated COPCs, or whether it is non-fish bearing as indicated by the DFO. The SRC representative indicated that while there are currently fish in the mine pit that are highly contaminated, the DFO does not consider the pit a fish habitat or a body of water for which it is administratively responsible because the pit is physically separated from Lake Athabasca. The Commission further enquired how the SRC will ensure that harvesting of fish in the pit by local residents does not occur. The SRC representative responded that currently there is signage around the pit indicating a no-fishing advisory, and a Uranium City Métis Local #50 representative concurred with the SRC representative's statement that safety signage on the site was more than adequate. Furthermore, the remediation plans include using the pit as a waste rock and/or waste repository, in which case it would be drained and the water would be treated before being released to Lake Athabasca, and the harvesting of fish from the pit would no longer be a concern.
68. CNSC staff noted that the remedial work at the Gunnar site is expected to have a beneficial effect on the aquatic environment. CNSC staff further reported that no negative effects to fish and fish habitat are predicted during the post-remediation phase of the project.
69. The Commission concludes that, with appropriate mitigation measures as proposed by the SRC, the project is not likely to cause significant adverse environmental effects to fish and fish habitat.

Terrestrial Environment

Soil Quality and Terrain

70. CNSC staff reported that loss of soil related to construction activities and exposure to wind and water, is likely to be small. Terrestrial effects from air quality associated with air emissions from the project, as well as from chemical spills, are expected to be minor and were not carried forward to the residual effects assessment.
71. CNSC staff reported about specific mitigation measures which will reduce changes to soil quality in the remediation phase of the project and noted that in the post-remediation phase, re-vegetation will be monitored to ensure that the recovery process is progressing towards eventual soil quality and habitat improvement.

72. In its intervention, the Saskatchewan Environmental Society indicated that the proposed tailings cover thickness of 0.5 metres to 1 metre is not sufficient, and that it should be 1.2 metres to 1.5 metres in thickness. The Commission enquired on what basis the Saskatchewan Environmental Society is suggesting the alternate cover thickness. The Saskatchewan Environmental Society representative responded that a similar site at Rabbit Lake has a cover that is approximately 1.2 metres thick. Additionally, the Saskatchewan Environmental Society stated that a thinner cover may be sufficient for several decades, but may not withstand erosion, extreme weather events, burrowing animals and other possible damage over an extended period of time. In response, the SRC stated that during Phase 1 of the project, the appropriate cover thickness will be determined through extensive engineering design, but that factors such as economics and availability of cover building materials must be considered as well. CNSC staff added that the preliminary cover design proposed by the SRC is consistent with sites that have similar levels and types of contaminants, and that the Rabbit Lake site has a significantly different source term which is why a thicker cover was used there. Additionally, due to the northern location of the site, cover material tends to be moist and does not have to be as thick to minimize radon exhalation. CNSC staff concurred with the SRC; however, the final cover design will be determined when the source term has been fully characterized.
73. The Commission enquired about the stability of the mine pit and the uncertainties surrounding its stability. The SRC representative responded that as an artificial body of water, the pit has remained stable for 50 years, is currently stable, and there are no signs of possible collapse. However, one of the remediation options includes dewatering the pit and using it as a waste rock and/or waste material repository. Dewatering the pit would change the loads on the pit walls and could potentially affect its stability, leading to uncertainties and the requirement for more investigation. Furthermore, there is an opening at the bottom of the pit which connects to the underground mine workings, and the stability of this section of the pit is unknown and needs to be investigated.
74. Based on the above information, the Commission agrees with CNSC staff and concludes that taking into account the mitigation measures proposed by the SRC, the project is not likely to cause significant environmental effects to soil quality and quantity, or the terrain.

Vegetation and Plant Communities

75. CNSC staff reported that two key indicators were chosen to assess measurable effects to vegetation health, diversity, and abundance in proximity to the Gunnar site:
- species abundance and diversity, and
 - vegetation community diversity.

76. CNSC staff provided the potential effects of the project on vegetation and plant communities. CNSC staff noted that residual effects on rare, threatened or endangered plant species, vegetation species of traditional use and medicinal value, native vegetation communities, and wetlands in the project area due to remediation activities are considered to be minimal. With the provision of additional green space, re-establishment of native vegetation, and the establishment of new wetland habitats as part of the final remediation plan, it is anticipated that there will be net benefit effects on the capacity of these resources, in the long term, and to the sustainability of these resources for future use.
77. The Commission enquired about re-vegetation plans for the Gunnar site. The SRC representative responded that the tailings covers will be vegetative covers and that when the final remediation engineering design is completed, re-vegetation plans for the site will be detailed as well.
78. CNSC staff noted that the project activities will have a positive effect on vegetation and plant communities from remediation activities through the establishment of native vegetation within reclaimed areas and on vegetative covers.
79. The Commission concludes that, taking into account the mitigation measures proposed by the SRC, the project is not likely to cause significant adverse environmental effects to the vegetation and plant communities.

Wildlife and Wildlife Habitat

80. CNSC staff reported that the effects analysis focused on the abundance and distribution of 16 wildlife VECs using measurement endpoints such as:
 - wildlife mortality;
 - habitat availability;
 - habitat effectiveness; and
 - habitat integrity.
81. CNSC staff noted that the effect of project activities on the direct mortality of wildlife is negative, but that it is local, short-term and low. Though, in the short-term, the effect of habitat disruption and removal is assessed as negative, the long term effect of restoring habitat through re-vegetation, and reducing habitat fragmentation and movement barriers, results in a net beneficial effect on wildlife and wildlife habitat.
82. With respect to wildlife exposure to COPCs, CNSC staff noted that no new chemicals or radiological environmental inputs were identified in association with the project. CNSC staff noted that possible fuel spills, and redistribution of existing contaminated wastes and tailings deposits presented a minimal impact to wildlife VECs.

83. CNSC staff presented predicted effects to VECs in the project area and noted that impacts on VECs from the remediation project are assessed to be strongly beneficial with no residual effects identified.
84. Based on the above information, the Commission agrees with CNSC staff and concludes that, taking into account the mitigation measures proposed by the SRC, the project is not likely to cause significant adverse environmental effects to wildlife and wildlife habitat.

Human Environment

Occupational Health and Safety, and Radiological Exposure

85. CNSC staff reported that project remediation activities have the potential to present physical, chemical, and biological hazards to workers. Exposure pathways to humans include the atmospheric, aquatic and terrestrial environment.
86. CNSC staff further reported that activities at the project site have the potential to present radiological exposure hazards to nuclear energy workers (NEWs). CNSC staff identified three potential pathways for radiological exposure and stated that radiation doses to workers are predicted to be below regulatory dose limits.
87. The Commission enquired as to how the natural background radiation levels for the site, as well as the levels of contamination on the site, were determined. The SRC representative responded that background radiation levels for the site and surrounding areas are subject to a lot of variation. The SRC representative further provided information on the analysis conducted to determine the minimum natural background radiation levels at the site and the surrounding areas, as well as the estimated contamination levels. CNSC staff stated that they were satisfied with the SRC's analytical approach to determine natural background radiation levels, which had been used on other remediation projects.
88. CNSC staff noted that public presence at the site is unlikely and described the control measures that are and will be in place to prevent public access to the site.
89. The Commission agrees with CNSC staff and concludes that, taking into account the mitigation measures proposed by the SRC, the project is not likely to cause significant adverse environmental effects to the human environment and there will be no significant adverse effects on human health for those working at the project site from potential occupational health and safety risks and radiological exposure.

Human Health Risk Assessment

90. CNSC staff reported that a key objective of the project is to minimize future risks to Aboriginal peoples and the public, and that a human health risk assessment (HHRA) was conducted to assess the potential risk associated with exposure to the site in its current state. CNSC staff explained that the HHRA was based on the assumption that hypothetical individuals (toddlers and adults) may occasionally visit the Gunnar site for approximately 1.5 months per year, and bring food back to their homes for consumption over a six-month period. CNSC staff stated that they consider this to be a realistically conservative estimate.
91. CNSC staff further reported that the risks to humans and the environment can be managed at acceptable levels using appropriate mitigation measures. Any of the considered remediation options would result in a reduction of gamma exposure and chemical contaminants.
92. The Commission asked whether the assumed 40-42 days per year occupancy at the site is a reasonable assumption for the calculation of the dose to a member of the public of 1 mSv/year. CNSC staff responded that similar discussions and studies were conducted for a different remediated uranium mine site and that it represents a reasonable usage of the lands and lakes. CNSC staff added that the assumed site occupancy was developed using traditional knowledge and traditional land use (TK and TLU) information and that when remediated, the site will be safe for traditional and recreational purposes. The TLU studies that were conducted have not indicated that a member of the public would use these lands more than 42 days per year.
93. In his intervention, a Uranium City Métis Local #50 representative stated that his family has trap lines at the Gunnar site and that they spend time trapping and fishing near the site. The Commission enquired about the number of days per year, on average, that are spent near the site. The Uranium City Métis Local #50 representative indicated that a maximum of 15 days per year are spent near the Gunnar site for traditional purposes by himself, his family and his friends.
94. The HHRA indicated that, under current conditions, casual access to the Gunnar site is unlikely to pose any unacceptable risks to humans. CNSC staff noted that external gamma radiation and ingestion of duck tissues have been shown to be the two major contributors to radiological dose to human receptors having casual access to the site.
95. The Commission enquired about whether an advisory on the consumption of duck exists, and if not, whether there should be one. The SRC representative responded that there is no advisory on the consumption of duck as it is a less significant component of the local diet, and the probable health effects from duck consumption are much lower than for fish consumption. CNSC staff added that the consumption of duck was a pathway which was assessed in the EA, and which will continue to be monitored throughout the project and in the follow-up monitoring program.

96. The Commission noted that the HHRA indicated that casual access to the site and consumption of traditional country foods are not likely to pose a risk to humans. The Commission enquired about how the project remediation criteria were determined if this risk is already considered low. CNSC staff responded that the HHRA took into consideration that the risk to humans is decreased through the use of no fishing and non-potable water advisories, and that such advisories are not sustainable in the long term, especially in consideration of Aboriginal treaty rights. Therefore the remediation criteria will focus on minimizing contamination leaving the site, and reducing the source terms to levels where fish consumption can resume and water is potable.
97. In reference to the intervention from the Saskatchewan Environmental Society, the Commission enquired about whether the parameters for transfer of the site to the ICP are well-defined. A SRC representative responded that a principal remediation objective is that the annual dose for individual members of the public should not exceed 1 mSv and that based on the HHRA, which the SRC deems a reasonable representation of how the site will be used, it is reasonable to assume that this objective will be achieved. CNSC staff added that the land is not intended to be used for residential purposes post-remediation.
98. The Commission further enquired whether, post-remediation, the level of remediation that was done at the site could be questioned by the Province of Saskatchewan and prevent the site from being accepted into the ICP. The SRC representative responded that the type of access that will be allowed under the ICP will be appropriate with respect to the remediation done at the site, and that the intent of the ICP is that the site will be managed in the long term by the government as an industrial site, not a residential site, with safe access for traditional uses. The Saskatchewan Ministry of Economy representative stated that the intention of the Province is that the site will be transferred to the ICP when it is remediated to acceptable levels, and that activities on the site will likely remain restricted. The SME representative responded that the EIS was reviewed by technical experts on the Saskatchewan Environmental Assessment Review Panel and they were determined to be reasonable. Although there are additional considerations within the remediation decision tree process, the SME representative stated that these are not considered a risk, simply part of the process to transition the site into the ICP.
99. The Commission agrees with CNSC staff and concludes that, taking into account the mitigation measures proposed by the SRC, remediation activities are not likely to cause significant adverse effects on human health and are assessed to be strongly beneficial, with a significant positive impact.

Socio-Economic Environment

Socio-Economic Assessment

100. CNSC staff reported that although the remediation phase of the project will require a smaller work force than what was required for the demolition activities at the Gunnar site, the project will generate a number of direct, indirect and induced employment opportunities. Additionally, economic activity within the regional study area (RSA) should increase.
101. With respect to training opportunities, the SRC will train all site employees in health and safety, and radiation safety, which will be a potential benefit to build the skills and labour supply in the RSA. CNSC staff noted that detailed project health and safety, as well as radiation protection programs, will reduce hazards to workers.
102. The Commission agrees with CNSC staff and concludes that, taking into account the mitigation measures proposed by the SRC, the project is not likely to cause significant adverse environmental effects to the socio-economic environment.

Heritage Resources

103. CNSC staff reported that, with Order 10-1 issued to the SRC in 2010, buildings and structures on the site that were deemed to be unsafe were demolished, removed or otherwise secured. These buildings and structures were found to have low historical significance. The proposed remediation activities at the Gunnar site are expected to further affect heritage resources during the remediation phase through increased personnel on site, ground disturbance and infrastructure removal; however, these effects are expected to have a low impact on the site and are not expected to occur outside of the project footprint.
104. CNSC staff noted that two artifact scatters, four death sites, two spiritual places and four sacred areas were identified within the local study area, but outside of the project footprint. The current remediation plans and proposed mitigation measures will reduce the potential adverse effects to these heritage resources.
105. The Commission agrees with CNSC staff and concludes that, taking into account the mitigation measures as proposed by the SRC, the project is not likely to cause significant adverse environmental effects to heritage resources.

Traditional Land and Resource Use

106. CNSC staff reported that traditional land use by Aboriginal persons was identified in Section 8 of the EA Report, and that, although the sustainability and current use of lands and resources for traditional purposes may be impacted by the project, the effects are temporary and not significant. CNSC staff further noted that because this is a remediation project, the condition of traditional lands and resources will improve at its conclusion.
107. The Commission enquired whether the TK and TLU study completed by the Prince Albert Grand Council and supported by the Fond du Lac and Black Lake Denesuline First Nations was available to the public. The SRC representative responded that the study was used in several sections of the EIS, and that it was widely distributed and publicly available. The Commission expressed its satisfaction that the SRC used this study to shape the scope of the proposed project.
108. The Commission agrees with CNSC staff and concludes that, taking into account mitigation measures as proposed by the SRC, the project is not likely to cause significant adverse environmental effects to lands and resources used by Aboriginal persons for traditional purposes.

Conclusion on Effects of the Project on the Environment

109. The Commission is satisfied that the likelihood and significance of the effects of the project on the environment have been identified with reasonable predictability and recognizes the importance of properly implementing mitigation measures to ensure that these are not significant. In this regard, the Commission expects CNSC staff to ensure that appropriate monitoring activities are implemented to verify whether these mitigation measures remain effective.
110. Based on its review of the EA Report and the above information provided on the record, the Commission concludes that the proposed project, taking into account the implementation of mitigation measures identified in the EA Report, is not likely to cause significant adverse effects to the environment.

Effects of the Environment on the Project

111. CNSC staff reported that potential environmental events that may affect the project include seismic events, extreme weather, climate change and wildfires. CNSC staff noted that these events will be mitigated through measures such as tailings covers, and engineering and infrastructure designs.

112. CNSC staff stated that the project site is located on the Canadian Shield and is one of the most tectonically stable regions in the world. Therefore, the risk of seismic events to the project is low.
113. CNSC staff reported that, through mitigation measures including infrastructure design and vegetative covers for tailings deposits, extreme weather and climate change are not likely to cause significant adverse effects on the project.
114. CNSC staff stated that, although forest fires are common in Northern Saskatchewan during extended droughts, wildfires are not expected to have a significant effect on the project, through appropriate application of emergency response plans and mitigation measures.
115. CNSC staff concluded that, taking into account mitigation measures, the environment is not likely to cause adverse effects on the proposed project.
116. Based on its review of the EA Report and the above information provided on the record, the Commission concludes that the environment, taking into account the implementation of mitigation measures identified in the EA Report, is not likely to cause significant adverse effects on the proposed project.

Effects of Malfunctions and Accidents

117. CNSC staff has identified and considered activities potentially associated with specific malfunctions and accidents that have a reasonable probability of occurring during the lifetime of the project: vehicle accidents, vehicle-wildlife collisions, leaks or spills of oils/other hazardous substances, and accidental fires.
118. CNSC staff concluded that, taking into account required mitigation measures proposed by the SRC and that appropriate emergency response procedures are followed, accidents and malfunctions will not likely cause significant adverse effects on the project.
119. Based on the above information, the Commission concludes that the impact of malfunction and accidents will be mitigated by adherence to strict safety measures and will not likely cause significant adverse effects on the project.

Likely Cumulative and Residual Effects

120. CNSC staff reported that, although the Gunnar site is in a remote area, other projects and activities in the region were considered in the cumulative environmental effects assessment: nearby SRC Project CLEANS sites (Cleanup of Abandoned and Northern Sites), recreational and traditional land use, operations at the Gunnar airstrip and plans to develop a road from Stony Rapids to Fond du Lac.

121. CNSC staff further reported that the residual and cumulative effects on the atmospheric environment, acoustic environment, hydrogeology, surface water environment, terrestrial environment, human environment, and socio-economic environment were considered.
122. CNSC staff concludes that because the project is intended to reduce environmental risks and improve public safety, the cumulative negative environmental effects of the project are expected to be minimal in the short term, with significant beneficial effects in the long term.
123. Based on the above information, the Commission concludes that the impact of cumulative effects and residual effects will be reduced by adherence to strict mitigation measures identified in the EA Report and will result in significant beneficial effects in the long term.

Follow-Up Monitoring Program

124. A follow-up program under the CEEA 2012 is a program to verify the accuracy of the EA of a project, and to determine the effectiveness of any measures taken to mitigate the adverse environmental effects of the project. A follow-up program approved by the CNSC is required before remediation work begins.
125. The SRC reported that the monitoring program was expanded for the 2014 field season following the commitments provided in the EIS. Furthermore, the detailed monitoring programs for the remediation and post-remediation phases are being currently designed. They will be based on the remediation options selected, and the EIS provides a description of proposed feasible monitoring procedures. The SRC also provided details of the social-oriented monitoring and follow-up programs that will be developed, as recommended in the EIS.
126. The SRC noted that post-remediation monitoring will assess the effectiveness of the remediation activities performed at the Gunnar site, will monitor the socio-economic environment, and will track the site and receiving environment over time. The endpoint of the proposed project includes transfer into the Saskatchewan ICP whereby the site will continue to be monitored by the Province of Saskatchewan, and the SRC will report on the types and frequency of traditional activities and pursuits undertaken on the site and in its vicinity. Furthermore, the SRC will monitor and report on the success of the project in terms of the provision of skills development and training initiatives to residents of Northern Saskatchewan, specifically the Athabasca Basin region. CNSC staff noted that the EA follow-up program will be further refined as remediation option decisions for Phase 2 of the project are finalized.
127. The Commission enquired about how long follow-up monitoring will continue at the site. The Saskatchewan Ministry of Economy representative responded that, as a reclaimed industrial site in the ICP, the site will be monitored indefinitely. The Commission requested confirmation that funding will be available from the Province of Saskatchewan for long term monitoring of the site. The Saskatchewan Ministry of

Economy representative responded that the funding will be available.

128. The Commission enquired about how post-remediation concentrations of COPCs will be compared to baseline concentrations, and whether remediation modelling estimates will be verified as the project progresses. The SRC representative responded that when the remediation design is completed, the monitoring program will be modified to include this information. The SRC representative added that the main purpose of the monitoring program will be to compare the site conditions from the baseline study to actual site conditions throughout the project.
129. The Commission requested more detailed information about the monitoring of COPCs in Lake Athabasca. CNSC staff responded that all known source terms on the site and their current loading have been recorded. Some of the COPCs are associated with water quality guidelines for drinking water or the protection of aquatic life, and the expectation is that through site remediation, COPC loading will decrease. CNSC staff further stated that COPC loading in the bodies of water surrounding the site is the best performance measure for remediation activities, but that the terrestrial environment will be monitored as well to ensure that conditions are improving. The SRC representative provided additional details on COPC loading measurement, as well as water flows from the site into Lake Athabasca.
130. The Commission asked how it will be updated on the progress of COPC monitoring during and post-remediation. CNSC staff indicated that it will provide the Commission with annual reports on the site, and more frequently if required. The Commission expressed its satisfaction with this information and requested to be updated on COPC loading annually, at a minimum.
131. The Commission further enquired about how local communities and the public will be updated about the site post-remediation. The SRC responded that they will continue to meet with the communities approximately three times a year to provide them with site updates and to provide opportunities for their participation in the project and post-remediation monitoring. The Commission expressed the opinion that local First Nations should be invited to participate in the environmental and follow-up monitoring programs of the project, as its requirements and the mandate allow.
132. CNSC staff reported that the CNSC licensing and compliance program will be used as the mechanism for ensuring the adequacy of the final remediation design, the implementation of the follow-up monitoring program, and for the reporting of the program results.
133. The Commission is satisfied with the proposed scope of the follow-up monitoring program, that additional mitigation measures will be identified and implemented if necessary, and with the manner in which CNSC staff and the SRC will report the program results.

Nature and Level of Public Concern

134. In accordance with the CEAA 2012, CNSC staff reported that it ensured that public participation, as required for an environmental assessment, has been conducted.
135. With respect to public concern as a factor in its consideration of whether to refer the project to the federal Minister of the Environment for a review panel or mediator, the Commission first examined whether the public had sufficient opportunity to become informed about the proposed project and the EA, and express their views on it.

SRC Public Engagement

136. The SRC reported that, to date, 107 community meetings have been conducted with respect to the proposed project, and opportunities have been provided to local community representatives for direct participation in the EIS, as well as the Gunnar proposal review and evaluation. Furthermore, the TK and TLU study for the EIS was supported directly by representatives from the Prince Albert Grand Council, with study results impacting the scope of the project. With respect to information distribution, the SRC reported that information has been distributed through various community leaders and representatives in both official languages, as well as in Dené and Cree. The SRC has made information available on their website and through social media. The SRC was also involved in generating media interest in and coverage of Project CLEANS activities specifically related to the Gunnar EIS.
137. With respect to economic engagement, the SRC reported that the previous Gunnar Demolition and Lorado Remediation projects show that, where possible, the SRC procured local labour and heavy equipment contractors. The SRC is also an economic partner for the Prince Albert Grand Council Athabasca Community training initiative. The SRC noted that it has informed Northern residents and contractors about upcoming training, employment and contracting opportunities related to the project through the channels identified above.
138. CNSC staff reported that the SRC developed a project-specific consultation plan, employing a number of engagement approaches, and which included community interest groups from the First Nations, Métis communities, and municipalities identified as an interested party or potentially interested party. During more recent community meetings, the SRC provided updates on the project and presented the EIS. The SRC has also committed to continue consultation activities with communities throughout the final steps of the EA process and during the project. CNSC staff further reported that, after a request at a 2007 meeting, a project review committee (PRC) for the project EA was established. The SRC supported this initiative and the PRC included elected local officials that met on a quarterly basis.

Federal Public Engagement

139. CNSC staff reported that, in 2008, the Canadian Environmental Assessment Agency identified a list of Aboriginal groups that may have an interest in the project. CNSC staff further evaluated this list and, based on additional research, a list of 12 interested Aboriginal groups and organizations were identified.
140. CNSC staff further reported that, in September 2008, the Canadian Environmental Assessment Agency announced that it was offering up to \$20,000 through its PFP to facilitate public and Aboriginal participation in the EA process, including the review of EA documents. The Canadian Environmental Assessment Agency awarded up to \$20,000 to three applicants:
 - Inter-Church Uranium Committee Educational Co-operative
 - Prince Albert Grand Council
 - Brian R. Clavier

Public Consultation

141. CNSC staff reported that a community and stakeholder consultation program was undertaken during the EA process by the SRC, the SME, the CNSC and the Canadian Environmental Assessment Agency. Throughout the cooperative EA process, public comment periods were provided and encouraged Aboriginal and public participation for the review of key EA documents. Opportunities to comment were advertised in newspapers, radio announcements, web postings and local viewing locations. The CNSC considered the comments from the public and Aboriginal communities and organizations in the EA process, to help with establishing the scope and level of the federal EA, and to identify issues during the review of SRC's EIS.
142. The SRC reported that key concerns raised during the public engagement process included:
 - Public and Aboriginal consultation;
 - Effects of remediation activities on human health and environment;
 - Remediation options, approaches, and potential site end-use(s); and
 - Potential employment and business opportunities generated by the project.
143. In its intervention, the Saskatchewan Environmental Society stated that, although the SRC has conducted extensive consultation with Aboriginal and local Northern Saskatchewan communities, organizations such as the Saskatchewan Environmental Society do not have the same opportunities for consultation and site visits. The SRC, CNSC staff and Commission indicated that they value the information provided in the Saskatchewan Environmental Society's intervention.

Aboriginal Engagement and Consultation

144. CNSC staff reported that in addition to public consultation activities, and along with the SRC, the SME and the other FAs involved in the project, CNSC staff has worked to address the concerns raised by Aboriginal groups and individuals throughout the EA and regulatory review process. Furthermore, the SRC retained the Prince Albert Grand Council to complete a TK and TLU study for the areas influenced by the Gunnar and Lorado abandoned uranium mine and mill sites. The details from this study were used to shape the project description, the preferred remediation options, and the evaluation of the current risks presented by the site to humans and the environment. The study was a key source of information for the socio-economic assessment conducted by the SRC in the EIS. The Commission expressed its satisfaction that the TK and TLU study was used in the EIS.
145. CNSC staff further reported that it kept interested Aboriginal groups informed and invited their participation in the EA process, while actively seeking to meet with Aboriginal groups to provide project information, and to consider their input and concerns.
146. CNSC staff reported that the SRC provided Athabasca community tours, and that CNSC staff, along with the SRC, conducted site visits with a number of Aboriginal groups in October 2010 and September 2011. The community meetings, as well as the comment periods for EA documents, were widely publicized through newspaper and radio advertisements translated into Dené and Cree, as well as through various other methods.
147. CNSC staff reported that Aboriginal groups and organizations were invited to provide comments on the EIS during the formal comment period between May 28, 2014 and June 30, 2014. CNSC staff noted that concerns raised to date include potential human and environmental impacts, as well as ensuring that TK and TLU were taken into consideration throughout the EA and licensing processes. CNSC staff determined that all project-specific concerns raised to date by Aboriginal groups have been adequately addressed through the EA Report.
148. With respect to the Fond du Lac and Black Lake Denesuline First Nations interventions, the Commission enquired whether the communities felt that their concerns were not adequately addressed in the EA process. The Fond du Lac First Nations representative responded that the communities wanted to reinforce the issues that are important to them during the public hearing, including Aboriginal treaty rights as well as the First Nations' reliance on the land and its resources as part of their livelihood. The Commission asked whether the local First Nations communities are satisfied with the Aboriginal consultations done by the SRC and what could be changed about the consultation process. The Black Lake Denesuline First Nations representative responded that, if the SRC worked specifically with First Nations leaders, improvements to communication with the communities could be made and that the First Nations want to ensure meaningful representation during the entire project.

149. In response to the Prince Albert Grand Council intervention, the Commission enquired about how the Prince Albert Grand Council perceived the consultations that have been carried out by the SRC and CNSC. The Prince Albert Grand Council representative responded that, although in general the communication is good and the communities appreciate the SRC and CNSC coming to them, more could be done with respect to information-sharing with local communities.
150. The Commission enquired about the consultation activities conducted by the CNSC with Aboriginal communities near the project site. CNSC staff responded that it has taken every opportunity to meet with the local communities and groups when it has gone to Northern Saskatchewan, plan to continue this relationship and will meet with the communities at their request. CNSC staff also noted that local communities have an open invitation to participate during inspections at the project site.
151. In its intervention, the Uranium City Métis Local #50 representative stated that he was currently under contract with the SRC for the Lorado remediation project, and was communicating with the SRC with respect to traditional and historical knowledge for the Gunnar site. The representative indicated that his family has trap lines near the Gunnar site and that the local population is looking forward to the project being started as soon as possible. The Uranium City Métis Local #50 stated that they support the licensing of the project and appreciate the work that the SRC has done in keeping the local First Nations, Métis, and non-First Nations people informed on the project and its progress.
152. CNSC staff concluded that the information provided in the EIS and related documentation is sufficient to determine that the project is not likely to result in significant adverse effects on Aboriginal interests, taking into account the implementation of mitigation measures as proposed by the SRC. Furthermore, no specific information has been provided by Aboriginal groups and organizations with respect to how the project could potentially adversely impact any potential or established Aboriginal and/or treaty rights.

Conclusion on Nature and Level of Public Concern

153. The Commission is satisfied that the opportunities given to the public to comment and review the EA Report were acceptable. The Commission decides that the level of public concern does not warrant that the project be referred to the Minister of the Environment for referral to a review panel or mediator (i.e., pursuant to paragraph 52(3) of the CEEA 2012).

3.1.4 Conclusion on the EA Report

154. The Commission has considered the information available in the EA Report and CNSC staff's submission as presented for reference on the record for the public hearing.

155. The Commission concludes that the EA Report attached to CMD 14-H5 is complete and meets the requirements of the CEAA 2012 for the scope of the project and the scope of the assessment established in the approved *Project-Specific Guidelines Scoping Document*, and that subsection 52(1) of the CEAA 2012 was adequately addressed during the assessment.
156. The Commission concludes that the project, taking into account the appropriate mitigation measures identified in the EA Report, is not likely to cause significant adverse environmental effects and that the public concerns expressed to date about the project do not warrant a reference to the Minister of the Environment for referral to a mediator or review panel, pursuant to paragraph 52(3) of the CEAA 2012.
157. Therefore, the Commission also concludes that, at this time, it will not refer the project to the federal Minister of the Environment for a referral to a review panel or mediator in accordance with the provisions of the CEAA 2012.
158. The Commission, pursuant to paragraph 56(1) of the CEAA 2012, decides that it will proceed with the consideration of a Waste Nuclear Substance Licence application for the project under the *Nuclear Safety and Control Act*.

3.2 Licensing

159. In making its licensing decision, the Commission considered a number of issues relating to the SRC's qualification to remediate the Gunnar Legacy Uranium Mine site, 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.

3.2.1 Management System

160. The Commission examined the SRC's Management System which covers the framework that establishes the processes and programs required to ensure that, at the project site, the SRC achieves its safety objectives and continuously monitors its performance against these objectives, and fosters a healthy safety culture.
161. CNSC staff reported that the SRC has developed a hierarchical series of documents that make up the Gunnar Management System Framework. This Management System Framework has a similar design to what has been completed at other SRC remediation sites and is comprised of a *Gunnar Site Phase 1 Licence Manual*. Furthermore, the Management System Framework documentation will be updated and used as necessary throughout the remediation and post-remediation phases.

Quality Management

162. The SRC reported on the processes that will govern how it will ensure that quality work is done for the Gunnar Remediation Project. The scope of the SRC's Quality Program includes a Quality Assurance Plan, a Corrective Action Plan, a Management of Changes Plan, and a Document Control Plan.
163. CNSC staff reported that the Quality Program will oversee all elements of the Management System Framework.
164. CNSC staff further reported that contractors will be responsible for much of the remediation work associated with the proposed project and that the SRC has submitted a Quality Management Program which applies to both SRC employees and contractors.
165. CNSC staff concluded that the submitted Management System is aligned with the SRC's Corporate Management System and is sufficient to comply with the LCH.

Conclusion on Management System

166. Based on its consideration of the presented information, the Commission concludes that the SRC has appropriate organization and management structures in place to adequately carry out the activities under the proposed licence.

3.2.2 Human Performance Management

167. Human performance management encompasses activities that enable effective human performance through the development and implementation of processes that ensure licensee staff is sufficient in number in all relevant job areas, and have the necessary knowledge, skills, procedures and tools in place to safely carry out their duties.

Training

168. The SRC reported that its Training Program outlines the process that the SRC will employ to train its employees and contractors for the project. The Training Program includes the Training Plan, which outlines how training will be identified, employed and tracked for SRC employees and contractors while working at the Gunnar site.
169. The SRC further reported that it provides and will continue to provide extensive opportunities for its entire staff to obtain meaningful training within their field. Training is provided before work begins, or when a worker is moved from one activity or workplace to another with different hazards, facilities, or procedures.

170. CNSC staff reported that the SRC submitted a Training Program which describes, at a high level, the need to assess and respond to training needs for its employees and contractors, and provided the primary objectives of the Training Program. CNSC staff also stated that orientation and job-specific training will be provided to new workers and contractors who arrive on the project site, with a focus on conventional health and safety. More detailed environmental awareness and radiation protection training will be provided for medium to long term workers.
171. In its intervention, the Prince Albert Grand Council stated that, with respect to local employment for the project, the Prince Albert Grand Council would like to ensure that local First Nations are involved in the project. The Prince Albert Grand Council is assisting with training local First Nations members, and working with the SRC to develop more training opportunities, to ensure that the possibility for employment of First Nations members during the project is maximized.
172. In its intervention, the Saskatchewan Environmental Society recommended that all workers on the project site receive basic environmental awareness and radiation protection training. The SRC representative indicated that this has been included in training programs for past projects and will be a part of the Gunnar project Training Program.
173. CNSC staff confirmed that verification activities with respect to worker training will be carried out before licensed activities begin. CNSC staff concluded that the SRC's Training Program for the project meets the applicable requirements under the NSCA and its associated regulations, and is satisfactory for the purposes of licensing. The Training Program will be reviewed prior to authorization of Phase 2 remediation work as the project moves forward.

Bonding and Liability

174. In its oral intervention, the Prince Albert Grand Council stated that bonding of First Nations workers, and its associated costs, has been a challenge to securing employment on local projects. The Commission requested more information about the challenges that the bonding of local workers presents. The SRC representative responded that they have received this feedback from local Aboriginal communities during procurement for past projects. In response to the feedback, the SRC has modified the procurement package for the Lorado project and amended the bonding requirement to a financial liability only. For future projects, including the Gunnar project, other forms of financial liability provisions are being investigated to take the concerns of Aboriginal communities into consideration.

Conclusion on Human Performance Management

175. Based on its consideration of the information presented, the Commission concludes that the SRC has appropriate programs in place and that current efforts related to human performance management provide a positive indication of the SRC's ability to adequately carry out the activities under the proposed licence.

3.2.3 Safety Analysis

176. The Commission examined issues related to the program areas of Safety Analysis in order to assess the adequacy of the safety margins provided by the SRC for the project.
177. Safety analysis includes the systematic evaluation of the potential hazards associated with the proposed project and considers the effectiveness of preventive measures and strategies in reducing the effects of such hazards.

Hazard Analysis

178. The SRC reported that, through the EIS, major sources of public safety and environmental risks were identified. Furthermore, the site is currently secured through the use of fencing and extensive signage in English and Dené, to prevent public access.
179. CNSC staff noted that the SRC minimized the risk of injury to the public by removing man-made physical hazards under the CNSC Order 10-1. CNSC staff confirmed the posting of signage throughout the site and installation of permanent fencing, and stated that access to the Gunnar airstrip has been cut off from the site.
180. Since the Uranium City Métis Local #50 representative indicated familiarity with and spent time in and around the Gunnar site, the Commission asked about the level of fencing and signage at the site during the intervention. The Uranium City Métis Local #50 representative responded that there is more than adequate signage around the mine and mill site, Langley Bay and Zeemel Bay, with respect to the site hazards, the no-fishing advisories, and the non-potable water advisories, and that fencing restricting access to the site is also more than adequate.
181. CNSC staff reported that it is satisfied with the safety performance demonstrated by the SRC and its contractors to date, and safety assessment at the site has not changed since the last CNSC report presented to the Commission in April 2013. Characterization of the site and its hazards was conducted as part of the EA and is fully described in the EA Report, as well as the EA section of this *Record of Proceedings*.

Conclusion on Safety Analysis

182. On the basis of the information presented, the Commission concludes that the systematic evaluation of the potential hazards and the preparedness for reducing the effects of such hazards is adequate for conducting the activities under the proposed licence.

3.2.4 Radiation Protection

183. Radiation Protection (RP) covers the implementation of a RP program in accordance with the *Radiation Protection Regulations*⁸ to ensure that contamination and radiation doses are monitored and controlled.
184. The *Radiation Protection Regulations* require licensees to establish a RP Program to keep exposures as low as reasonably achievable (ALARA), through the implementation of a number of controls, including management control over work practices, personnel qualification and training, control of occupational and public exposures to radiation, and planning for unusual situations. The *Radiation Protection Regulations* also prescribe dose limits for workers and members of the public.

Public Radiation Exposure

185. The SRC reported that, to minimize radiation exposure to the public, permanent fencing and signs in both English and Dené have been erected on and around the project site, advising the public of radiation hazards. The SRC has also put in place extensive signage for 'do not eat' and 'limit consumption' advisories with respect to fish, as well as non-potable water advisories in the project area.
186. The SRC reported that regular internal and external inspections monitor surface and ground water quality, ambient radon concentrations, external radiation dose rates, and individual dose loads to SRC employees, consultants, and contractors visiting the site.
187. CNSC staff noted that, due to the remediation activities that will occur in Phase 2 of the project, radiation levels to the public will decrease, as will concentrations of radioactive contaminants of potential concern in soils and water.

Worker Radiation Exposure

188. CNSC staff reported that the SRC Radiation Protection Plan is described in the *Gunnar Phase I Licence Manual*, under the Occupational Health and Safety Program. CNSC staff noted that, prior to the project moving into Phase 2, the Radiation Protection Plan will be reassessed.

⁸ SOR/2000-203.

189. The SRC indicated that all employees working on the site will get basic radiation protection and ALARA training. The SRC further noted that the RP Program is part of the Occupational Health and Safety Program (OHSP), and that the OHSP conforms to the *Saskatchewan Occupational Health and Safety Act and Regulations*⁹.
190. CNSC staff concludes that based on its review of the OHSP, radiation protection has been and will be effectively conducted to ensure that risks are properly understood and mitigated to maintain the ongoing protection of workers during Phase 1 of the project and beyond.

Conclusion on Radiation Protection

191. The Commission is of the opinion that, given the mitigation measures and safety programs that are in place or will be in place to control hazards, the SRC will provide adequate protection to the health and safety of persons, the environment and national security.

3.2.5 Conventional Health and Safety

192. Conventional health and safety covers the implementation of a program to manage workplace safety hazards. This program is mandatory for all employers and employees in order to reduce the risks associated with conventional (non-radiological) hazards in the workplace. This program includes compliance with Part II of the *Canada Labour Code*¹⁰ and conventional safety training.
193. The SRC reported that the purpose of the OHSP for the project is to provide site-specific guidance and metrics in support of the SRC's Corporate Occupational Health and Safety Policy and Objectives, and conforms to the *Saskatchewan Occupational Health and Safety Act and Regulations*.
194. The SRC reported that the OHSP includes the Emergency Medical Plan, the Radiation Protection Plan, the Emergency Response Plan, the Site Security Plan, the Wildfire Prevention and Preparedness Plan, and the Site Specific Health and Safety Plan.
195. CNSC Staff reported that conventional health and safety is described in the *Gunnar Phase I Licence Manual* and that the plan will be reassessed by the CNSC and the Province of Saskatchewan prior to any authorizations of remediation work as the project moves into Phase 2.

⁹ Ch. S-15.1 of the *Statutes of Saskatchewan, 2013*.

¹⁰ R.S.C., 1985, c. L-2

196. CNSC staff concluded that an OHSP has been and will be effectively implemented to ensure that risks are properly understood and mitigated to ensure the ongoing protection of people and the environment during Phase 1 of the project and beyond.
197. The Commission is of the opinion that the health and safety of workers and the public will be adequately protected during Phase 1 of the licence period. The OHSP will be reassessed prior to authorization of Phase 2 of the project.

3.2.6 Environmental Protection

198. Environmental Protection covers the SRC's programs that identify, control and monitor all releases of radioactive and hazardous substances from facilities or as the result of licensed activities and their effects on the environment. It includes effluent and emissions control, environmental monitoring and estimated doses to the public.
199. In the *Gunnar Site Phase I Licence Manual*, the SRC noted that the protection of the environment during all activities at the project site is a fundamental principle of remediation. The SRC reported that the Environmental Protection Program (EPP) for the project governs the control of remediation activities, including the Environmental Management Plan, the Spill Response Plan, and the Environmental Monitoring Plan. The EPP and associated plans will help ensure that the impact from planned activities and potential predicted events will be minimized.
200. CNSC staff reported that, as part of the EA, the SRC conducted an environmental risk assessment (ERA) to determine the state of the existing environment, and to predict the potential effects of the project's licensed activities on people and the environment. This information is detailed in the EA section of this *Record of Proceedings*. Furthermore, the implementation of the mitigation measures identified in the proposed EA Report is a condition of the licence and bounds the scope of the project.
201. CNSC staff noted that the SRC will conduct hazard assessments throughout the project, specifically during and prior to the commencement of detailed engineering design, construction and operational activities. CNSC staff will verify the implementation of the licensee's programs through inspections and other compliance tools with results documented in annual reports.

Effluent and Emissions Control

202. CNSC staff reported that, through the ERA and as described in the EA Report, multiple mitigation measures were identified and would be implemented to ensure appropriate effluent and emission control.

Environmental Monitoring

203. In the *Gunnar Site Phase I Licence Manual*, the SRC reported that the Environmental Monitoring Plan outlines the requirements for the monitoring of potential environmental impacts as a result of activities carried out during the project. Environmental monitoring will allow the SRC and project-related personnel to evaluate and track potential environmental impacts at the project site. The plan includes environmental receptors of concern, locations to be monitored, monitoring frequency, and parameters to be monitored.
204. CNSC staff reported that throughout the project, the SRC will actively monitor and record data such as worker exposures, airborne dust levels, surface water quality, ground water and sediment quality, and duck tissue COPC concentrations. The SRC noted that the detailed monitoring programs for Phase 2 and Phase 3 of the project are being currently designed to satisfy federal and provincial regulatory requirements in support of licensing. Currently, the EIS provides a description of proposed feasible monitoring procedures.
205. CNSC staff further reported that monitoring of the site may resume after it has been transferred into the Saskatchewan ICP, should it be necessary, and that detailed follow-up monitoring information is included in the EA Report as well.

Flooding

206. CNSC staff reported that heavy rain could result in flooding and changes in water levels in the mine pit, Back Bay, Langley Bay, Mudford Lake and St. Mary's Channel. Storm water that comes into contact with contaminated materials may bypass the surface drainage features or water treatment systems, leading to the release of contaminants directly into the environment.
207. CNSC staff further reported that water level changes and flooding will be taken into account in the detailed engineering designs for the tailings deposits, landfill and waste rock piles, and the mine pit remediation plans. Multiple mitigation measures will be in place to prevent any impact from potential flooding events on the environment.

Geotechnical Stability

208. In the EA Report, CNSC staff reported that the project is located on the Canadian Shield, one of the most tectonically stable regions in the world. As such, the risk of seismic events to the project is low.

Conclusion on Environmental Protection

209. Based on the above information, the Commission is satisfied that, given the information provided in the EA Report as well as mitigation measures and safety programs that are in place to control hazards, the SRC will provide adequate protection to the health and safety of persons and the environment.

3.2.7 Emergency Management and Fire Protection

210. Emergency Management and Fire Protection covers the SRC's provisions for preparedness and response capability to mitigate the effects of accidental releases of nuclear and hazardous substances to the environment during emergency and non-routine conditions.

Emergency Management

211. As part of its *Gunnar Phase I Licence Manual*, the SRC reported that it has an Emergency Response Plan and an Emergency Medical Plan.
212. The SRC reported that the purpose of the Emergency Response Plan is to provide information on measures that the SRC will take to enable a managed, coordinated and effective response to the immediate physical effects of an emergency or crisis situation.
213. The SRC further reported that the purpose of the Emergency Medical Plan is to provide guidance in case of a medical emergency at the project site.
214. CNSC staff noted that the SRC emergency management programs for the project will be reassessed by the CNSC prior to authorization of Phase 2 of the project.

Fire Protection

215. As part of its *Gunnar Phase I Licence Manual*, the SRC reported that it has a Wildfire Prevention and Preparedness Plan. The purpose of this plan is to provide guidance to field personnel for the prevention of and response to wildfires during the project. The Plan applies to the entire project site and contains information on the physical and administrative measures to be implemented to prevent wildfires, and the measures to be undertaken to prevent any unintentional wildfires that may start as a result of activities at the site from spreading to the surrounding forest.
216. CNSC staff noted that the fire protection programs will be reassessed by the CNSC prior to authorization of Phase 2 of the project.

Conclusion on Emergency Management and Fire Protection

217. Based on the above information, the Commission concludes that the current fire protection measures and emergency management preparedness programs, and those that will be implemented at the project site, are adequate to protect the health and safety of persons and the environment.

3.2.8 Waste Management

218. Waste management covers the licensee's site-wide waste management program. CNSC staff reported that, due to the nature of the project being a remediation project, only existing wastes will be managed and therefore there are no specific waste management requirements for this licence.
219. The Commission requested clarification on why waste management is not relevant to this project. CNSC staff responded that there will be no waste leaving the site, the project will be managing wastes that are already onsite, minimal waste will be generated during the project, and that no waste will be transported to or from the site.
220. Based on the above information and considerations, the Commission is satisfied that there are no specific waste management requirements for this site or licence.

3.2.9 Security

221. Security covers the programs required to implement and support the security requirements stipulated in the relevant regulations, the licence, and in the expectations for the facility or activity. This includes compliance with the applicable provisions of the *General Nuclear Safety and Control Regulations*¹¹ and the *Nuclear Security Regulations*¹².
222. As part of its *Phase I Gunnar Licence Manual*, the SRC reported that it has a Site Security Plan that addresses security issues at the project site and protects the property of the SRC and its contractors. The plan also discusses measures that will be taken to protect the public from hazards on the project site.
223. CNSC staff reported that the Site Security Plan will be reassessed by the CNSC prior to authorization of Phase 2 of the project.
224. CNSC staff concluded that site security has been and will be effectively conducted to ensure that risks are properly understood and mitigated for the ongoing protection of people and the environment during Phase 1 of the project.

¹¹ SOR/2000-202

¹² SOR/2000-209

225. The Commission concludes that the SRC has made adequate provision for ensuring the physical security of the project site, and is of the opinion that the SRC will continue to make adequate provisions during the proposed licence period.

3.2.10 Safeguards

226. Safeguards and Non-Proliferation covers the programs and activities required for the successful implementation of the obligations arising from the Canada/IAEA Safeguards agreements as well as all other measures arising from the *Treaty on Non-Proliferation of Nuclear Weapons*.
227. CNSC staff reported that there are no fissile or other IAEA safeguarded materials involved in this project and therefore there are no safeguards requirements for this licence.

3.2.11 Packaging and Transport

228. Packaging and transport covers the safe packaging and transport of nuclear substances and radiation devices to and from the licensed facility or site. The licensee must adhere to the *Packaging and Transport of Nuclear Substances Regulations*¹³ and Transport Canada's *Transportation of Dangerous Goods Regulations*¹⁴ for all shipments leaving the site.
229. CNSC staff reported that none of the nuclear substances being managed under the proposed licence will require packaging or transportation outside of the licensed areas and therefore there are no packaging and transport requirements for this licence.

3.2.12 Aboriginal Engagement and Public Information

Participant Funding Programs

230. In December 2013, the CNSC announced that it was offering up to \$25,000 to assist members of the public, Aboriginal groups, and other stakeholders to participate in the Commission's public hearing for the EA Report and licence application, and to review licensing documentation related to the licence application. The CNSC awarded up to \$35,250 in funding to the following five applicants, all of which provided written and oral interventions at the Commission hearing:

- Black Lake Denesuline First Nation
- Fond du Lac Denesuline First Nation
- Prince Albert Grand Council
- Uranium City Metis Local #50

¹³ SOR/2000-208

¹⁴ SOR/2001-286

- Saskatchewan Environmental Society

231. In its intervention, the Prince Albert Grand Council noted that, while the PFPs are appreciated, the funding provided does not cover the costs that are incurred. The Prince Albert Grand Council representative stated that the Prince Albert Grand Council feels that the First Nations are required to subsidize the CNSC to participate as intervenors in proceedings. The Commission expressed its appreciation for the intervention.
232. The Commission concludes that members of the public, Aboriginal groups and other stakeholders have been encouraged to participate in the licensing process. Furthermore, assistance has been offered for the participation in the EA through the Canadian Environmental Assessment Agency's PFP, and to prepare for and participate in the Commission's public hearing through the CNSC's PFP.

Aboriginal Engagement

233. The common law duty to consult with Aboriginal communities and organizations applies when the Crown contemplates actions that may adversely affect established or potential Aboriginal or treaty rights.
234. The SRC reported that it takes the duty to consult seriously and that, throughout the EA process, it consulted with Aboriginal community members with respect to traditional knowledge, valued ecosystem components, traditional land uses, and training and employment opportunities related to the project. The SRC further reported that, as part of the *Phase I Gunnar License Manual*, it has a Communications Program which outlines the process by which the SRC will continue to communicate with third parties interested in the project.
235. CNSC staff noted that the CNSC, the SME and the SRC have been in active communication with residents of the Athabasca region since 2004. CNSC staff further reported that, for this project, consultation activities were integrated to the extent possible within the licensing review process (including the EA) and coordinated with other federal agencies.
236. Through extensive research and in coordination with the Canadian Environmental Assessment Agency, a list of 12 Aboriginal groups and organizations with potential interest in the project was created. CNSC staff described the consultation activities that they have conducted, in coordination with the Canadian Environmental Assessment Agency and the SME, with identified Aboriginal groups and organizations since 2007. CNSC staff has also participated in a number of community meetings, workshops, open houses and Athabasca community tours.
237. CNSC staff noted that, in October 2013, the CNSC received letters from Aboriginal groups expressing concerns regarding the length of time required to begin remediation at the Gunnar site. In response, CNSC staff and the SRC communicated to the groups that the site is being effectively managed by the SRC and that the regulatory review

process is required by law to ensure that appropriate actions are taken to remediate and reduce the risks on site.

238. The Commission enquired about how the SRC will involve the Aboriginal groups during the Phase 2 remediation period and in the long term monitoring programs. The SRC responded that remediation options will be selected in consultation with Aboriginal groups and organizations, and that local Aboriginal groups will be invited to participate in follow-up monitoring of the site.
239. Several intervenors indicated that they wanted more involvement with the procurement process to maximize benefits to local First Nations communities. The Commission asked about how the SRC plans to maximize local procurement for the project and whether procurement will be restricted to northern Saskatchewan communities. The SRC explained that, although it cannot restrict procurement to specific communities or geographical areas, a scoring system for applications includes higher scores for local contractors.
240. The SRC further noted that, during the Gunnar demolition project in 2010, the SRC provided local training and employment guidelines in the procurement process. During the Lorado remediation project, economic benefit to local communities was maximized and the SRC ensured that training was provided to local community members for environmental monitoring activities. The SRC stated that it plans to undertake the same procurement activities for the Gunnar project.
241. The Commission asked representatives from the Saskatchewan Government to comment on policy with respect to local procurement. The SME representative responded that the provincial government is interested in maximizing economic benefits to Northern communities and engages directly with them to inform the communities of procurement opportunities and strategies for success in procurement competitions. The SME representative confirmed that the SRC contracts include criteria benefiting Northern Saskatchewan communities, but indicated that there are provincial obligations with respect to contracting that the SRC must also meet. The SME representative further indicated that, while the province supports both Aboriginal treaty rights and economic benefits to their communities, they are separate issues, and information was provided on how the province supports both of these issues. The SME representative stated that previous projects have shown that skills development for Northern residents is the best opportunity for them to obtain employment in local projects. The SME representative concurred with the SME representative and added that the SRC's commitments in the EIS appear to seek maximum economic benefits to Northern communities and that there are no additional procurement conditions required for ministerial approval from the province.
242. In response, the Fond du Lac representative noted that, although there appear to be many initiatives in place to ensure local procurement, previous projects have shown that contracts are often awarded to non-local workers. Local First Nations communities want to ensure that they are being treated fairly in terms of economic opportunities. During their interventions, the Fond du Lac and Black Lake First Nations stated that employment and procurement commitments should be guaranteed to local First

Nations through conditions in the project licence. CNSC staff responded that, while the CNSC supports economic development and benefit from the project for local communities, the contractual agreement between the proponent and the contractors goes beyond the CNSC mandate and requirements.

243. In their intervention, the Fond du Lac representative stated that to address employment and contracting issues, the Fond du Lac and Black Lake Denesuline First Nations have requested an Impact Management Agreement (IMA) with the SRC and governments and to date they have not received a response. The Commission noted that, while it supports employment and economic benefits from the project to the local First Nations communities, the IMA is outside the scope of the CNSC's mandate and not within the Commission's authority.
244. The Fond du Lac and Black Lake Denesuline First Nations representatives noted in their interventions that, under Section 35 of Treaty 8, the First Nations have protected constitutional rights and that formal commitments to Section 35 should be made by the CNSC within the project licence or the LCH. CNSC staff responded that the licence conditions are broad and do not specify particular groups for communications and procurement. CNSC staff stated that they fully respect the rights of the First Nations and Métis communities, and that a draft regulatory document for Aboriginal consultation is currently out for comments and will likely be published in 2015. CNSC staff emphasized that the project is a rehabilitation project and that the CNSC and the SRC are intending to improve the environment to allow First Nations to practice their constitutionally-protected rights in a safer environment. The CNSC and the SRC are committed to involving the Northern communities in decisions regarding the project. The Fond du Lac First Nations representative noted that the communities would like to be consulted at the same level as other government entities, as they are a recognized First Nations government.
245. The Commission asked whether economic benefits were seen by local Aboriginal communities during previous projects such as the Gunnar demolition and the Lorado remediation. The SRC representative responded that they do their best to meet the needs of the communities. For the aforementioned projects, the SRC delivered training to over 100 local Athabasca residents, and ensured that the training was broad and transferable to other uranium mine and mill sites. The Fond du Lac and Black Lake Denesuline First Nations representatives responded that some local members have obtained temporary employment from the aforementioned projects; however, it appears that many of the local economic benefits are seen by non-First Nations residents and that more First Nations involvement in these projects is needed.
246. The Commission further enquired whether it is difficult for the First Nations communities to meet the requirements for these procurement opportunities. The Black Lake Denesuline First Nations representative stated that, while it is not difficult for the communities to meet the procurement requirements, more general training by the SRC within the communities prior to beginning the procurement process is needed. Furthermore, with more consultation by the SRC at a community level, additional opportunities for heavy equipment, construction and freight hauling training could be identified.

247. The Commission enquired how many workers will be required at the site during the remediation phase. The SRC responded that 30 to 40 workers will be required. The Commission further enquired whether the SRC has committed to providing a specific amount of employment and economic benefit from the project to local communities. The SRC representative responded that, when meeting with the communities, ranges of possible employment opportunities were provided but no commitments could be made.
248. The Commission enquired whether the Prince Albert Grand Council invites the SRC into the communities in order to provide them with updates on a periodic basis. The Prince Albert Grand Council representative responded that the SRC is always welcome to come and liaise with the communities because their priority is to ensure that their lands are cleaned up properly.
249. The Commission enquired whether a formal standing committee of all parties that oversees the project has been considered to ensure adequate Aboriginal and public engagement and consultation. The SRC representative responded that, although such a committee for the project has not been created, a similar committee was established with success for the EA process (as discussed in the EA section of this *Record of Proceedings*), and included various communities in the Athabasca Basin. Although the committee met on a regular basis, 12 to 18 months ago the committee indicated that they would prefer project information to be disseminated through community meetings. The Fond du Lac and Black Lake First Nations representatives responded that developing a standing committee for the project would be beneficial to the First Nations communities and indicated support for the idea. In response, the Commission expressed the opinion that such a committee should be strongly considered when the project is started.
250. CNSC staff concluded that Aboriginal groups and organizations with potential interest in the project were identified early in the review process and given opportunities to comment on key documents throughout the EA and licensing processes. No specific information has been provided by Aboriginal groups and organizations with respect to how the project could potentially impact any potential or established Aboriginal or treaty rights. CNSC staff stated that it is not aware of any adverse impacts that the project may have on potential or established Aboriginal treaty rights.

Public Information

251. A public information program is a regulatory requirement for licence applicants.
252. CNSC staff reported that, as an agent of the provincial Crown, the SRC reports on site activities through local workshops and meetings, and by posting updates on its web site. These activities have been ongoing for the last seven years.

253. The SRC reported that, as part of the *Phase I Gunnar License Manual*, it has developed a Communications Program which outlines and documents the process by which the SRC will communicate with third parties interested in the project. The Communications Program includes the Communication Plan, which outlines how internal and external communication is conducted and recorded, as well as the views, opinions and concerns related to the site of the general community and public.
254. The Commission asked whether the SRC Communication Plan was formally shared with the First Nations groups. The Fond du Lac Denesuline First Nation representative responded that it had not been formally shared with them. The SRC representative concurred but advised the Commission that the Communications Plan for the project is the same as what is being currently undertaken by the SRC in other projects, and that they will provide the intervenors with the document. The Commission asked whether the SRC should have consulted with the public and Aboriginal groups on the Communications Plan itself to ensure that any opportunities to improve on the current plan were addressed. CNSC staff responded that consultation with stakeholders is a requirement of *Regulatory Document 99.3: Public Information and Disclosure* with respect to the development of the Communication Plan and that the SRC is currently fulfilling this requirement. CNSC further staff stated that the licence has a condition requiring the SRC to have a public information program and that, during the licence period, CNSC staff will monitor that this licence condition is being met.
255. In its submission, the Saskatchewan Environmental Society expressed its dissatisfaction with the lack of possibility for public review of Phase 2 and 3 project activities prior to licensing. The Commission enquired whether the Saskatchewan Environmental Society would be satisfied with updates on the project being provided through the Annual Report process. The Saskatchewan Environmental Society responded that, due to the lack of a specific remediation plan, issuing a licence without the option of public review, as well as issuing a 10-year licence, would set an unusual precedent. The Saskatchewan Environmental Society recommended that public review of the plans for Phase 2 be included in the project licence conditions. In response to the licence period, CNSC staff noted that issuing a 10-year licence does not set a precedent.
256. The Fond du Lac Denesuline First Nations representative noted in his submission that they require a local Aboriginal Liaison officer to be engaged in the project on their behalf. CNSC staff responded that a senior project officer is assigned to the Gunnar project file and is the point of contact for the local communities. CNSC staff also noted that, due to the current fishing and drinking water advisories, moving forwards, it intends to undertake formal engagement with the communities to ensure that there are improvements in the environment and that Aboriginal rights remain protected in the long term.
257. The Commission enquired whether CNSC staff plan to communicate with the public on the final design of the remediation plans. CNSC staff responded that it supports public review of Phase 2 plans through community engagement activities, similar to the public engagement conducted during the EIS, and that public engagement is an

important condition of the project licence. CNSC staff also stated that, in terms of radiological risk, this project is very low-risk, and it is a remediation project which is supported by the public. Furthermore, the project is bounded by the EA and, as such, there are bounds on the type of remediation that can be performed, and the conditions to which the remediation has to be done. The Commission indicated that a formal Phase 2 public review period for the project should be conducted.

Conclusion on Aboriginal Engagement and Public Information

258. The Commission acknowledges the SRC's efforts and commitments made in relation to Aboriginal engagement and the legal duty to consult.
259. Based on this information, the Commission is satisfied that the SRC's public information program meets regulatory requirements and is effective in keeping Aboriginal groups and organizations, as well as the public, informed on project operations.
260. As stated in paragraph 281, the Commission will conduct a public proceeding to consider Phase 2 of the project, and the Aboriginal communities and the public will have an opportunity to participate.
261. Based on the information presented, the Commission concludes that the Aboriginal engagement and public information programs are acceptable for the purpose of the current application for licence issuance.

3.2.13 Financial Guarantee

262. The Commission requires that an adequate financial guarantee for the realization of the planned activities is put in place and maintained in a form acceptable to the Commission throughout the licence period.
263. The SRC reported that, through their Memorandum of Understanding agreement, both the provincial (Saskatchewan Ministry of Economy) and federal (NRCan) governments have committed to financial funding necessary to complete the project.
264. CNSC staff reported that the project is listed on the Provincial accounts ledger as a liability. The Government of Saskatchewan is committed to the project and it is currently a \$208.5 million liability on the Provincial ledger, which includes money for indefinite future site monitoring and maintenance as part of the Saskatchewan ICP.
265. The Commission enquired whether the Province of Saskatchewan is committed to the remediation of the site even if the project budget exceeds the \$208.5 million liability. The Saskatchewan Ministry of Economy representative responded that the Province is committed to the remediation of the Gunnar site and that the liability amount can be adjusted, if needed. Responding to the intervention from the Saskatchewan Environmental Society, the Commission enquired about the accuracy of the estimates

for the project budget. The SRC indicated that the budget is based on worst case scenarios for the remediation options decision tree framework as there are many unknowns at the site.

266. The Commission expressed its dissatisfaction that more paper studies and funding for these studies are required prior to beginning active remediation at the site. The SRC representative responded that they are anxious to move ahead with the project as well, but that because of the many uncertainties at the site, particularly with the mine pit and the waste rock piles, the detailed engineering studies will provide the information needed to determine the most effective methods to remediate the site.
267. The Commission agreed with several intervenors who indicated that they would like the remediation phase of the project to begin as soon as possible, and the Commission enquired about whether any remediation activities could be started during Phase 1. The SRC representative responded that, although remediation of the site will likely begin with covering the tailings, detailed engineering design needs to be performed to determine what cover material is available on site, and to characterize the waste rock and local borrow materials. Prior to beginning the detailed engineering activities, the SRC wanted to ensure that a CNSC licence was issued for Phase 1 of the project. The SRC also stated that they should be able to start remediation activities soon, with procurement beginning within a year.
268. The Commission further enquired why wastes from demolition activities at the site cannot be remediated during Phase 1 of the project. The SRC responded that those wastes will likely not be taken offsite and several remediation options are being investigated, including encapsulating them in the waste rock or burying them in the mine pit. CNSC staff added that they will ensure that if any remediation can be carried out in Phase 1 without impacting the rest of the project, it will be done. However, because remediation of the various site aspects is interconnected, the engineering design and site characterization needs to be performed prior to beginning any major work at the site.
269. CNSC staff concludes that, since this project has been officially accepted as a liability of a Provincial Government, and funds have been set aside by the Saskatchewan Provincial Treasury to safely manage this site during and after the anticipated remediation activities, it recommends that no further financial assurance be required under this licence.
270. Based on this information, the Commission considers that the financial liability accepted by the Province of Saskatchewan, as described above, is acceptable for the purpose of the current application for licence issuance. No other financial guarantee is required for licensing.

3.2.14 Nuclear Liability Insurance and Cost Recovery

271. CNSC staff reported that the Gunnar Legacy Uranium Mine site has not been designated by the CNSC as a nuclear installation for the purpose of the *Nuclear Liability Act*¹⁵ and therefore CNSC staff concludes that no nuclear liability insurance should be required of the SRC for this project.
272. As an agent of the Provincial Crown, the regulation of this site is not subject to cost recovery.

3.2.15 Licence Length and Conditions

273. The SRC requested the issuance of the WNSL for a period of 10 years. CNSC staff recommended the issuance of the licence for a period of 10 years, stating that the SRC is qualified to carry on the licensed activities authorized by the licence.
274. CNSC staff recommended a three-phased approach to licensing. The current licence application covers Phase 1 and subsequent phases would be subject to hold points requiring release by the Commission or a person authorized by the Commission. CNSC staff summarized the documentation that would be required for the release of the Phase 2 hold point and it is described in more detail in the LCH.
275. In its intervention, the Saskatchewan Environmental Society did not support issuing a 10-year licence with no opportunity for public consultation for the project without definitive remediation plans in place for Phases 2 and 3 of the project.
276. The Commission indicated its satisfaction with the description of the phased approach for the project, and that the final remediation plan is bound by conclusions drawn in the EA Report. The Commission is, however, of the view that members of the public, Aboriginal groups and other stakeholders should have an opportunity to comment on the detailed engineering and remediation plans prior to approval of Phase 2 of the project.
277. The Commission enquired whether CNSC staff could comment on the final remediation plan in time for the Uranium Mines and Mills Annual Report in the fall of 2015. CNSC staff responded that this should be possible, based on previous discussions with the SRC.
278. The Commission indicated its expectation that the detailed engineering and remediation design be completed by the fall of 2015 and requested more information about the approximate timeline for the project and whether the SRC anticipates being able to begin remediation before 2016. The SRC representative responded that detailed engineering design will be performed in 2015 and the SRC intends to obtain approval for Phase 2 of the project in the fall of 2015. The SRC representative further stated that

¹⁵ R.S.C., 1985, C. N-28

procurement will be completed in time for active remediation to begin in 2016, with heavy equipment mobilization in the winter of 2016 via ice road, and further heavy equipment mobilization via barge in the spring of 2016. The SRC representative added that operational approvals and work permits may be required in the future, but that all required federal and provincial approvals to begin the project, other than the WNSL, are in place.

279. With the WNSL, CNSC staff proposes a LCH which will provide compliance verification criteria to the SRC and CNSC staff, and establish and consolidate in one document the compliance framework related to the SRC WNSL for the project.
280. Based on the above information received during the course of this public hearing, the Commission is satisfied that a 10-year licence is appropriate. The Commission accepts the licence conditions as recommended by CNSC staff. The Commission also accepts CNSC staff's recommendation regarding the delegation of authority, with the exception of the release of hold points allowing the SRC to proceed to Phases 2 and 3 of the project which will be decided by the Commission. The Commission notes that CNSC staff can bring any matter to the Commission as applicable.
281. As stated above, the Commission does not confirm the delegation from the Commission to the Director General of the Directorate of Nuclear Cycle and Facilities Regulation and to the Executive Vice President of the Regulatory Operations Branch of the authority to authorize the SRC to proceed to the next phase of remediation upon acceptance of the documentation listed in the LCH under each licence condition. Approval for proceeding with Phase 2 of the Gunnar Remediation Project will be decided at a Commission proceeding and is tentatively planned for October 2015, in conjunction with the presentation of the 2014 uranium fuel cycle facility annual report, with the opportunity for written submissions from intervenors.

4.0 CONCLUSION

282. The Commission has considered the information and submissions of CNSC staff, the SRC and all participants as set out in the material available for reference on the record, as well as the oral and written submissions provided or made by the participants at the public hearing.
283. The Commission concludes that the EA Report attached to CMD 14-H5 is complete and meets all of the applicable requirements of the *Canadian Environmental Assessment Act, 2012*.
284. The Commission concludes that the project, taking into account the proper mitigation measures identified in the EA Report, is not likely to cause significant adverse environmental effects.

285. The Commission is satisfied that the SRC meets the requirements of subsection 24(4) of the *Nuclear Safety and Control Act*. That is, the Commission is of the opinion that the SRC is qualified to carry on the activity that the proposed licence will authorize and that the SRC 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.
286. Therefore, the Commission, pursuant to section 24 of the *Nuclear Safety and Control Act*, issues the Saskatchewan Research Council Waste Nuclear Substance Licence WNSL-W5-3151.00/2024 for the Gunnar Remediation Project located in Northern Saskatchewan. The new licence WNSL-W5-3151.00/2024 will be valid from January 14, 2015 to November 30, 2024. Concurrent with the coming into effect of WNSL-W5-3151.00/2024, the Commission revokes the SRC's exemption under Section 26 of the *Nuclear Safety and Control Act* from the requirement to hold a licence for the possession, management and storage of nuclear substances at the Gunnar Legacy Uranium Mine site.
287. The Commission includes in the licence the conditions as recommended by CNSC staff and set out in the draft licence attached to CMD 14-H5.

Regarding the proposed LCH, the Commission modifies how it proposes the release of hold points as follows:

“The licence is issued by the Commission pursuant to section 24 of the *Nuclear Safety and Control Act*. In the case of the Gunnar site, with the exception of approval to proceed to Phase 2 and 3 activities, delegation of authority by the Commission applies to the following staff:”

and

“The SRC cannot proceed with any Phase 2 activities until all documents listed below as supporting Phase 2 have been accepted by the CNSC. Upon submission and acceptance by the Commission at a public proceeding of the documentation necessary to demonstrate that the SRC can remediate the Gunnar site in compliance with the NSCA, the SRC can proceed with Phase 2 activities. The necessary documentation is listed below as “Licensing Basis Documents”.

288. The Commission directs CNSC staff to include dates for the “Effective Date” column in the *Documents that Require Version Control* tables.
289. The Commission accepts CNSC staff's recommendation regarding the delegation of authority in the LCH other than as detailed in paragraphs 21, 281, and 290. The Commission notes that CNSC staff can bring any matter to the Commission as applicable. The Commission directs CNSC staff to inform the Commission on an annual basis of any changes made to the LCH.

290. The Commission does not confirm the delegation from the Commission to the Director General of the Directorate of Nuclear Cycle and Facilities Regulation and the Executive Vice President of the Regulatory Operations Branch of the authority to authorize the SRC to proceed to the next phase of remediation upon acceptance of the documentation listed in the LCH under each licence condition. Approval for proceeding with Phase 2 of the Gunnar Remediation Project will be decided at a Commission proceeding and is tentatively planned for October 2015, in conjunction with the presentation of the 2014 uranium fuel cycle facility annual report, with the opportunity for written submissions from intervenors.
291. With this decision, the Commission strongly recommends the establishment of a stakeholder standing committee for the project to enable effective SRC and CNSC consultation with local Aboriginal groups, the public and other stakeholders.
292. With this decision, the Commission further strongly recommends that local Aboriginal groups be invited to participate in the environmental and follow-up monitoring programs of the project, as its requirements and the mandate allow.
293. With this decision, the Commission directs CNSC staff to provide annual reports on the performance of the Gunnar Remediation Project as part of the annual safety performance reports uranium fuel cycle facilities in Canada. CNSC staff shall present these reports at public proceedings of the Commission.



JAN 14 2015

Michael Binder
President,
Canadian Nuclear Safety Commission

Date

Appendix A – Intervenors

Fond-du-Lac Denesuline First Nation, represented by D. McDonald	CMD 14-H5.2 CMD 14-H5.2A
Black Lake Denesuline First Nation, represented by Chief R. Robillard and D. McDonald	CMD 14-H5.3 CMD 14-H5.3A
Saskatchewan Environmental Society, represented by P. Prebble and A. Coxworth	CMD 14-H5.4
Prince Albert Grand Council, represented by L. Hardlotte and Vice Chief J. Tsannie	CMD 14-H5.5
Uranium City Métis Local #50, represented by A. Auger	CMD 14-H5.6