

Application for Licence to Prepare Site and Construct
Kiggavik Project
Kivalliq Region, Nunavut

General Nuclear Safety and Control Regulations: Section 3 (General Application Requirements)	Kiggavik Project Information
3. (1) An application for a licence shall contain the following information:	
a) the applicant's name and business address;	<p>AREVA Resources Canada Inc. is a Canadian company headquartered in Saskatoon, Saskatchewan. The company is part of the AREVA Group of companies, headquartered in France, and a world leader in nuclear energy, and electricity transmission and distribution. Sustainable development is at the core of the Group's business strategy. AREVA, and its predecessor companies, have been involved in uranium exploration and in project development and operation in Saskatchewan's Athabasca Basin for the past 40 years. The social partnerships and high level of safety and environmental protection achieved by these operations have enabled economic development to occur in northern Saskatchewan without compromising the future of the land or the people. AREVA is committed to developing a similar outcome for the Kiggavik Project.</p> <p>AREVA Resources Canada Inc business address is: PO Box 9204 817-45th Street West Saskatoon, Saskatchewan S7K 3X5</p> <ul style="list-style-type: none"> • Also to be included in future licensing documents
(b) the activity to be licensed and its purpose;	<ul style="list-style-type: none"> • The activity to be licensed is for the site preparation and construction of four open-pit mines, one underground mine, one uranium processing plant (mill), tailings management facility and associated infrastructure including camp, airstrip, water treatment plants, etc. Further detail is available in the project proposal and will be developed as the Project moves through the review process, with the preparation of an Environmental Impact Statement and licensing documents. • Project Proposal – Sections 1.1 and 1.2
(c) the name, maximum quantity and form of any nuclear substance to be encompassed by the licence:	<ul style="list-style-type: none"> • Project Proposal – Section 2.2, 2.3 • To be detailed in future licensing documents
(d) a description of any nuclear facility, prescribed equipment or prescribed information to be encompassed by the licence;	<ul style="list-style-type: none"> • See Project Proposal – Section 2 • Entire mining and milling facilities will be detailed in future licensing documents

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(e) the proposed measures to ensure compliance with the Radiation Protection Regulations and the Nuclear Security Regulations	<ul style="list-style-type: none"> • Corporate IQMS • Future Kiggavik IQMS • ARC has been operating uranium mines and mills in Saskatchewan for 30 years, for each of these projects Radiation Protection Code of Practices, Procedures and Manuals have been developed and accepted by the regulators. These documents will be adapted for the Kiggavik Project at appropriate stages of approved activities. Current Management Plans exist to reflect current activities; these will continue to be adapted to reflect changes during the Project.
(f) any proposed action level for the purpose of section 6 of the Radiation Protection Regulations	<ul style="list-style-type: none"> • To be developed with CNSC staff and published in a Radiation Protection Code of Practice
(g) the proposed measures to control access to the site of the activity to be licensed and the nuclear substance, prescribed equipment or prescribed information; (h) the proposed measures to prevent loss or illegal use, possession or removal of the nuclear substance, prescribed equipment or prescribed information	<ul style="list-style-type: none"> • Security Measures will be further developed for the preparation of the EIS and future licensing documents • Project Proposal – Section 10.2
(i) a description and the results of any test, analysis or calculation performed to substantiate the information included in the application	<ul style="list-style-type: none"> • Documents describing baseline environmental conditions and technical support documents are or will be referenced in the Project Proposal or EIS
(j) the name, quantity, form, origin and volume of any radioactive waste or hazardous waste that may result from the activity to be licensed, including waste that may be stored, managed, processed or disposed of at the site of the activity to be licensed, and the proposed method for managing and disposing of that waste:	<ul style="list-style-type: none"> • Existing Waste Management Plan for current level of activities (generally hazardous waste) will continue to evolve with the level of activity of the Project. • The generation of waste will be minimized wherever possible, and will be managed consistent with industry best management practices, internal procedures and regulatory requirements. • Future Kiggavik IQMS Manual • Initial Project information can be found in the Project Proposal: <ul style="list-style-type: none"> • Section 2.4 – Waste Rock Management • Section 2.5 – Process Description • Section 2.6 – Tailings Management • Section 2.7 – Water and Waste Management
(k) the applicant's organizational management structure insofar as it may bear on the applicant's compliance with the Act and the regulations made under the Act, including the internal allocation of functions, responsibilities and authority;	<ul style="list-style-type: none"> • To be included in the IQMS and future licensing documents (i.e. MFLM) • Project Proposal – Section 10 • EIS

MFLM – Mining Facility Licensing Manual

IQMS – Integrated Quality Management System

EIS – Environmental Impact Statement

COP – Code of Practice

Project Proposal – Submitted to NIRB and CNSC November 18, 2008

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(l) a description of any proposed financial guarantee relating to the activity to be licensed;	<ul style="list-style-type: none"> • To be negotiated during the EIS review following discussions between NWB, KIA, INAC and CNSC • Will be reflected in future licensing documents • ARC had established a financial guarantee with the CNSC, which was as a requirement of previous exploration permits issued by CNSC, once CNSC jurisdiction for exploration was removed – this amount was divided between KIA and INAC and is still in place • In addition, ARC has established a reclamation base case amount with KIA for current approvals and is based on the current status of the project, this value is reviewed when necessary
(m) any other information required by the Act or the regulations made under the Act for the activity to be licensed and the nuclear substance, nuclear facility, prescribed equipment or prescribed information to be encompassed by the licence;	<p>Information is also submitted pursuant to other regulations listed below:</p> <ul style="list-style-type: none"> • Uranium Mines and Mills Regulations • Radiation Protection Regulations • Nuclear Substances and Radiation Devices Regulations • Packaging and Transport of Nuclear Substances Regulations
3(1.1) the Commission or a designated officer authorized under paragraph 37(2)(c) of the Act, may require any other information to enable the Commission or the designated officer to determine whether the applicant is (a) qualified to carry on the activity to be licensed; or (b) will, in carrying on that activity, make adequate provision for the protection of the environment, the health and safety of persons and the maintenance of national security and measures require to implement international obligations to which Canada has agreed	<ul style="list-style-type: none"> • AREVA acknowledges this requirement

Uranium Mines and Mills Regulation: Section 3 (General Requirements)	Kiggavik Project Information
<p>3. An application for a licence in respect of a uranium mine or mill, other than a licence to abandon, shall contain the following information in addition to the information required by section 3 of the General Nuclear Safety and Control Regulations:</p> <p>a) in relation to the plan and description of the mine or mill,</p>	
(i) a description of the site evaluation process and of the investigations and preparatory work to be done at the site and in the surrounding area,	<ul style="list-style-type: none"> • Forthcoming Environmental Impact Statement and supplementary documents • Project Proposal – Section 2
(ii) a surface plan indicating the boundaries of the mine or mill and the area where the activity to be licensed is proposed to be carried on,	<ul style="list-style-type: none"> • Refer to Figures located in Section 2 of the Project Proposal • Will continue to evolve during the review process and will be including in the EIS and future licensing documents
(iii) a plan showing the existing and planned structures, excavations and underground development,	<ul style="list-style-type: none"> • Refer to Figures located in Section 2 of the Project Proposal • Will continue to evolve during the review process and will be including in the EIS and future licensing documents
(iv) a description of the mine or mill, including the installations, their purpose and capacity, and any excavations and underground development,	<ul style="list-style-type: none"> • Project Proposal – Section 2; • Will continue to evolve during the review process and will be included in the EIS and future licensing documents
(v) a description of the site geology and mineralogy,	<ul style="list-style-type: none"> • Project Proposal – Section 2 • Forthcoming EIS
(vi) a description of any activity that may have an impact on the development of the mine or mill, including any mining-related activity that was carried on at the site before the date of submission of the application to the Commission,	<ul style="list-style-type: none"> • Licensing documents will describe the status of mining
(vii) a description of the design of and the maintenance program for every eating area,	<ul style="list-style-type: none"> • ARC has been operating uranium mines and mills in Saskatchewan for 30 years, for each of these projects, licensing documents, Code of Practices, Procedures and Manuals have been developed and accepted by regulators. These documents will be adapted for the Kiggavik Project at appropriate stages of approved activities.
(viii) the proposed plan for the decommissioning of the mine or mill, and	<ul style="list-style-type: none"> • Project Proposal – Section 2.10 • To be further developed in the EIS and future licensing documents

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Uranium Mines and Mills Regulation: Section 3 (General Requirements)	Kiggavik Project Information
(ix) a description of the proposed emergency power systems and their capacities;	<ul style="list-style-type: none"> • Project Proposal – Section 2.8 • ARC has been operating uranium mines and mills in Saskatchewan for 30 years, for each of these projects, licensing documents, Code of Practices, Procedures and Manuals have been developed and accepted by regulators. These documents will be adapted for the Kiggavik Project at appropriate stages of approved activities
b) in relation to the activity to be licensed (i) a description of and the schedule for the planned activity	<ul style="list-style-type: none"> • Project Proposal – Section 2.1.2 • Routinely updated in future licensing documents
(ii) a description of the proposed methods for carrying on the activity,	<ul style="list-style-type: none"> • ARC has been operating uranium mines and mills in Saskatchewan for 30 years, for each of these projects, licensing documents, Code of Practices, Procedures and Manuals have been developed and accepted by regulators. These documents will be adapted for the Kiggavik Project at appropriate stages of approved activities.
(iii) a list of the categories of material proposed to be mined and a description of the criteria used to determine those categories,	<ul style="list-style-type: none"> • Project Proposal – Section 2.3 • Criteria will be further defined in future licensing documents • IQMS will describe the programs utilized to control the sorting of mined materials
(iv) the anticipated duration of the activity, and	<ul style="list-style-type: none"> • Project Proposal – Section 2.1.2 • Maintained in future licensing documents
(v) the proposed quality assurance program for the activity	<ul style="list-style-type: none"> • ARC has been operating uranium mines and mills in Saskatchewan for 30 years, in addition to a Corporate IQMS manual, each Project develops an IQMS that has been approved by regulators and is regularly audited. This document will be adapted for the Kiggavik Project
c) in relation to the environment and waste management, (i) the program to inform persons living in the vicinity of the mine or mill of the general nature and characteristics of the anticipated effects of the activity to be licensed on the environment and the health and safety of persons,	<ul style="list-style-type: none"> • Project Proposal • Communications Plan • Further details will be included future EIS and licensing documents

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Uranium Mines and Mills Regulation: Section 3 (General Requirements)	Kiggavik Project Information
(ii) the program to determine the environmental baseline characteristics of the site and the surrounding area	<ul style="list-style-type: none"> • Forthcoming EIS • Project Proposal – Section 5 • Future IQMS
(iii) the effects on the environment that may result from the activity to be licensed, and the measures that will be taken to prevent or mitigate those effects,	<ul style="list-style-type: none"> • Forthcoming EIS • Future IQMS will describe sites environmental management system • Development of an Environmental Monitoring Program
(iv) the proposed positions for and qualifications and responsibilities of environmental protection workers,	<ul style="list-style-type: none"> • Corporate IQMS • Future Kiggavik IQMS • Future licensing documents
(v) the proposed environmental protection policies and programs,	<ul style="list-style-type: none"> • Corporate IQMS • Future Kiggavik IQMS • Future licensing documents
(vi) the proposed effluent and environmental monitoring programs	<ul style="list-style-type: none"> • Future Kiggavik IQMS • Future licensing documents and environmental monitoring program
(vii) the proposed location, the proposed maximum quantities and concentrations, and the anticipated volume and flow rate of releases of nuclear substances and hazardous substances into the environment, including their physical, chemical and radiological characteristics,	<ul style="list-style-type: none"> • Future Environmental Protection COP sets administrative and action levels for environmental releases • Forthcoming EIS • Future licensing documents
(viii) the proposed measures to control releases of nuclear substances and hazardous substances into the environment,	<ul style="list-style-type: none"> • Future Environmental Protection COP • Future licensing documents
(ix) a description of the anticipated liquid and solid waste streams within the mine or mill, including the ingress of fresh water and any diversion or control of the flow of uncontaminated surface and ground water	<ul style="list-style-type: none"> • Project Proposal – Section 2.7 • Forthcoming EIS and supplementary documents • Future licensing documents
(x) the proposed measures to prevent or mitigate the effects of accidental releases of nuclear substances and hazardous substances on the environment, the health and safety of persons and the maintenance of security, including measures to (A)– assist off-site authorities in planning and preparing to limit the adverse effects of an accidental release, (B) – notify off-site authorities of an accidental release or the imminence of an accidental release, (C)– report information to off-site authorities during and after an accidental release, (D) – assist off-site authorities in dealing with the adverse effects of an accidental release, and (E) – test the implementation of the measures to control the adverse effects of an accidental release	<ul style="list-style-type: none"> • Corporate IQMS • Future Kiggavik IQMS • Future licensing documents • ARC has a well documented and reviewed emergency response and reporting plan, with training of personnel occurring at each Project site, in the corporate office and by engaging in third party contracts with response personnel • Mock accident scenarios are carried out annually and reviewed by regulatory agencies

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(xi) the anticipated quantities, composition and characteristics of backfill, and	<ul style="list-style-type: none"> • Forthcoming EIS • Maintained in future licensing documents
(xii) a description of the proposed waste management system;	<ul style="list-style-type: none"> • Current Plans exist to reflect current activities; these will continue to be adapted to reflect changes during the Project. • Future licensing documents
d) in relation to health and safety, (i) the effects on the health and safety of persons that may result from the activity to be licensed, and the measures that will be taken to prevent or mitigate those effects,	<ul style="list-style-type: none"> • Project Proposal – Sections 7.3, 10.2 • Forthcoming EIS • Future licensing documents • Future Kiggavik IQMS
(ii) the proposed program for selecting, using and maintaining personal protective equipment	<ul style="list-style-type: none"> • Future Kiggavik IQMS
(iii) the proposed worker health and safety policies and programs	<ul style="list-style-type: none"> • Corporate IQMS manual • Future Kiggavik IQMS
(iv) the proposed positions for and qualifications and responsibilities of radiation protection workers,	<ul style="list-style-type: none"> • Corporate IQMS manual • Future Kiggavik IQMS
(v) the proposed training program for workers,	<ul style="list-style-type: none"> • Corporate IQMS manual • Future Kiggavik IQMS
(vi) the proposed measures to control the spread of any radioactive contamination,	<ul style="list-style-type: none"> • Future Kiggavik IQMS
(vii) the proposed ventilation and dust control methods and equipment for controlling air quality, and	<ul style="list-style-type: none"> • Future licensing documents
(viii) the proposed level of effectiveness of and inspection schedule for the ventilation and dust control systems; and	<ul style="list-style-type: none"> • Future licensing documents
e) in relation to security, The proposed measures to alert the licensee to acts of sabotage or attempted sabotage at the mine or mill.	<ul style="list-style-type: none"> • Future Kiggavik IQMS • Future licensing documents

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Uranium Mines and Mills Regulation: Section 3 (General Requirements)	Kiggavik Project Information
<p>4. 1) In this section, “action level” means a specific dose of radiation or other parameter that, if reached, may indicate a loss of control of part of a licensee’s radiation protection program, and triggers a requirement for specific action to be taken.</p> <p>2) An application for a licence in respect of a uranium mine or mill, other than a licence to abandon, shall contain a proposed code of practice that includes</p> <p>(a) any action level that the applicant considers appropriate for the purpose of this subsection;</p> <p>(b) a description of any action that the applicant will take if an action level is reached; and</p> <p>(c) the reporting procedures that will be followed if an action level is reached.</p>	<ul style="list-style-type: none"> • Future RP COP

Uranium Mines and Mills Regulation: Section 4 (Requirement for Code of Practice)	Kiggavik Project Information
<p>(2) An application for a licence in respect of a uranium mine or mill, other than a licence to abandon, shall contain a proposed code of practice that includes</p> <p>(a) any action level that the applicant considers appropriate for the purpose of this subsection;</p>	<ul style="list-style-type: none"> • Future Kiggavik IQMS • Future RP COP
<p>(b) a description of any action that the applicant will take if an action level is reached; and</p>	<ul style="list-style-type: none"> • Future RP COP
<p>(c) the reporting procedures that will be followed if an action level is reached.</p>	<ul style="list-style-type: none"> • Future RP COP

Uranium Mines and Mills Regulation: Section 5 (Licence to Prepare and Construct)	Kiggavik Project Information
5. (1) An application for a licence to prepare a site for and construct a uranium mine shall contain the following information in addition to the information required by section 3 and subsection 4(2):	
(a) a description of the proposed design of the mine;	<ul style="list-style-type: none"> • Project Proposal –Section 2.3 • Maintained in future licensing documents
(b) the proposed construction program, including its schedule;	<ul style="list-style-type: none"> • Project Proposal –Section 2.1 • Forthcoming EIS • Maintained in future licensing documents
(c) a description of the components, systems and equipment proposed to be installed at the mine, including their design operating conditions;	<ul style="list-style-type: none"> • Project Proposal –Section 2.3 • Forthcoming EIS • Maintained in future licensing documents
(d) the proposed quality assurance program for the design of the mine;	<ul style="list-style-type: none"> • Corporate IQMS • Future Kiggavik IQMS
(e) the results of a process-hazard analysis and a description of how those results have been taken into account;	<ul style="list-style-type: none"> • Future licensing documents
(f) a description of the proposed design, construction and operation of the waste management system, including the measures to monitor its construction and operation, the construction schedule, the contingency plans for construction and the measures to control the movement of water in existing waterways;	<ul style="list-style-type: none"> • Corporate IQMS • Future Kiggavik IQMS • Forthcoming EIS • Future licensing documents • A Waste Management Plan has been developed and implemented for the current level of activity. This Plan will continue to evolve with the progression of the Project.
(g) a description of the proposed disposition of the ore;	<ul style="list-style-type: none"> • Project Proposal –Sections 2.2, 2.3
(h) the anticipated quantities and grade of ore and waste rock that will be removed, their proposed storage location, and the proposed method, program and schedule, for their removal and disposal;	<ul style="list-style-type: none"> • Project Proposal –Sections 2.3, 2.4 • To be further developed for the EIS and included in future licensing documents
(i) the proposed mining methods and programs; and	<ul style="list-style-type: none"> • Project Proposal –Section 2.3 • To be further developed for the EIS and included in future licensing documents
(j) the proposed commissioning plan for the components, systems and equipment to be installed at the mine.	<ul style="list-style-type: none"> • To be further developed for the EIS and included in future licensing documents
(2) An application for a licence to prepare a site for and construct a uranium mill shall contain the following information in addition to the information required by section 3 and subsection 4(2):	

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(a) a description of the proposed design of the mill;	<ul style="list-style-type: none"> • Project Proposal –Section 2.5 • To be further developed for the EIS and included in future licensing documents
(b) the proposed construction program, including its schedule;	<ul style="list-style-type: none"> • Project Proposal –Section 2.1 • To be further developed for the EIS and included in future licensing documents
(c) a description of the components, systems and equipment proposed to be installed at the mill, including their design operating conditions;	<ul style="list-style-type: none"> • Project Proposal –Section 2.5 • To be further developed for the EIS and included in future licensing documents
(d) the proposed quality assurance program for the design of the mill;	<ul style="list-style-type: none"> • Corporate IQMS • Future Kiggavik IQMS
(e) the results of a process-hazard analysis and a description of how those results have been taken into account;	<ul style="list-style-type: none"> • Future licensing documents
(f) a description of the proposed design, construction and operation of the waste management system, including the measures to monitor its construction and operation, the construction schedule, the contingency plans for construction and the measures to control the movement of water in existing waterways;	<ul style="list-style-type: none"> • Corporate IQMS • Future Kiggavik IQMS • Forthcoming EIS • Future licensing documents • A Waste Management Plan has been developed and implemented for the current level of activity. This Plan will continue to evolve with the progression of the Project.
(g) the proposed milling methods and programs;	<ul style="list-style-type: none"> • Project Proposal –Section 2.5 • To be further developed for the EIS and included in future licensing documents
(h) a description of all proposed laboratory facilities and programs; and	<ul style="list-style-type: none"> • To be further developed for the EIS and included in future licensing documents
(i) the proposed commissioning plan for the components, systems and equipment to be installed at the mill.	<ul style="list-style-type: none"> • To be further developed for the EIS and included in future licensing documents

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Radiation Protection Regulations	Kiggavik Project Information
<p>4. Every licensee shall implement a radiation protection program and shall, as part of that program,</p> <p>(a) keep the amount of exposure to radon progeny and the effective dose and equivalent dose received by and committed to persons as low as is reasonably achievable, social and economic factors being taken into account, through the implementation of</p> <p>(i) management control over work practices</p>	<ul style="list-style-type: none"> • Corporate IQMS • Future Kiggavik IQMS
<p>(ii) personnel qualification and training</p>	<ul style="list-style-type: none"> • Corporate IQMS • Future Kiggavik IQMS
<p>(iii) control of occupational and public exposures to radiation, and</p>	<ul style="list-style-type: none"> • Corporate IQMS • Future Kiggavik IQMS • RP COP
<p>(iv) planning for unusual situations; and</p>	<ul style="list-style-type: none"> • Corporate IQMS • Future Kiggavik IQMS • RP COP
<p>(b) ascertain the quantity and concentration of any nuclear substance released as a result of the licensed activity</p> <p>(i) by direct measurement as a result of monitoring, or</p> <p>(ii) if the time and resources required for direct measurement as a result of monitoring outweigh the usefulness of ascertaining the quantity and concentration using that method, by estimating them.</p>	<ul style="list-style-type: none"> • Corporate IQMS • Future Kiggavik IQMS
<p>5. (1) For the purpose of keeping a record of doses of radiation in accordance with section 27 of the Act, every licensee shall ascertain and record the magnitude of exposure to radon progeny of each person referred to in that section, as well as the effective dose and equivalent dose received by and committed to that person.</p> <p>(2) A licensee shall ascertain the magnitude of exposure to radon progeny and the effective dose and equivalent dose</p> <p>(a) by direct measurement as a result of monitoring; or</p> <p>(b) if the time and resources required for direct measurement as a result of monitoring outweigh the usefulness of ascertaining the amount of exposure and doses using that method, by estimating them.</p>	<ul style="list-style-type: none"> • Corporate IQMS • Future Kiggavik IQMS • RP COP • Dosimetry monitoring program as per IQMS
<p>6. (1) In this section, "action level" means a specific dose of radiation or other parameter that, if reached, may indicate a loss of control of part of a licensee's radiation protection program and triggers a requirement for specific action to be taken.</p> <p>(2) When a licensee becomes aware that an action level referred to in the licence for the purpose of this subsection has been reached, the licensee shall</p> <p>(a) conduct an investigation to establish the cause for reaching the action level;</p> <p>(b) identify and take action to restore the effectiveness of the radiation protection program implemented in accordance with section 4; and</p> <p>© notify the Commission within the period specified in the licence.</p>	<ul style="list-style-type: none"> • RP COP

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Radiation Protection Regulations	Kiggavik Project Information
<p>7. 1) Every licensee shall inform each nuclear energy worker, in writing,</p> <p>(a) that he or she is a nuclear energy worker;</p> <p>(b) of the risks associated with radiation to which the worker may be exposed in the course of his or her work, including the risks associated with the exposure of embryos and fetuses to radiation;</p> <p>(c) of the applicable effective dose limits and equivalent dose limits prescribed by sections 13, 14 and 15; and</p>	<ul style="list-style-type: none"> • Future Kiggavik IQMS • Included in radiation orientation course for all NEWs
<p>(d) of the worker's radiation dose levels.</p>	<ul style="list-style-type: none"> • Future Kiggavik IQMS • RP COP
<p>2) Every licensee shall inform each female nuclear energy worker, in writing, of the rights and obligations of a pregnant nuclear energy worker under section 11 and of the applicable effective dose limits prescribed by section 13.</p> <p>3) Every licensee shall obtain from each nuclear energy worker who is informed of the matters referred to in paragraphs (1)(a) and (b) and subsection (2) a written acknowledgement that the worker has received the information.</p>	<ul style="list-style-type: none"> • Future Kiggavik IQMS • Included in radiation orientation course for all NEWs
<p>8. Every licensee shall use a licensed dosimetry service to measure and monitor the doses of radiation received by and committed to nuclear energy workers who have a reasonable probability of receiving an effective dose greater than 5 mSv in a one-year dosimetry period.</p>	<ul style="list-style-type: none"> • Landauer and Radiation Safety Institute of Canada are the licensed dosimetry service providers for TLDs and PADs respectively currently utilized by ARC for other operations
<p>9. When, for purposes related to the administration of the Act, and these Regulations, a licensee collects personal information, as defined in section 3 of the Privacy Act, that may be required to be disclosed to the Commission, another government institution or a dosimetry service, the licensee shall inform the person to whom the information relates of the purpose for which it is collected.</p>	<ul style="list-style-type: none"> • Addressed as part of radiation orientation course for all NEWs
<p>10. Every nuclear energy worker shall, on request by a licensee, inform the licensee of the worker's</p> <p>(a) given names, surname and any previous surname;</p> <p>(b) Social Insurance Number;</p> <p>(c) sex</p> <p>(d) date, province and country of birth; and</p> <p>(e) dose record for the current one-year and five-year dosimetry periods.</p>	<ul style="list-style-type: none"> • Completed during radiation orientation course with all NEWs • Future Kiggavik IQMS
<p>11. (1) Every nuclear energy worker who becomes aware that she is pregnant shall immediately inform the licensee in writing.</p> <p>(2) On being informed by a nuclear energy worker that she is pregnant, the licensee shall, in order to comply with section 13, make any accommodation that will not occasion costs or business inconvenience constituting undue hardship to the licensee.</p>	<ul style="list-style-type: none"> • Addressed as part of radiation orientation course for all NEWs • Future Kiggavik IQMS

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Project Proposal – Submitted to NIRB and CNSC November 18, 2008

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Radiation Protection Regulations	Kiggavik Project Information
13. (1) Every licensee shall ensure that the effective dose received by and committed to a person described in column 1 of an item of the table to this subsection, during the period set out in column 2 of that item, does not exceed the effective dose set out in column 3 of that item.	<ul style="list-style-type: none"> • Program to remain well below dose limits inherent in RP COP
<p>(2) For the purpose of item 1 of the table to subsection (1), the effective dose shall be calculated using the following formula and expressed in millisievert:</p> <p>(3) For the purpose of item 2 of the table to subsection (1), the effective dose shall be calculated using the following formula and expressed in millisievert:</p> <p>(4) For the purpose of item 3 of the table to subsection (1), the effective dose shall be calculated using either of the following formulas and expressed in millisievert:</p> <p>(5) For the purpose of subsection (1), where the end of a dosimeter-wearing period or a bioassay-sampling period does not coincide with the end of a dosimetry period set out in column 2 of the table to that subsection, the licensee may extend or reduce the dosimetry period to a maximum of two weeks so that the end of the dosimetry period coincides with the end of the dosimetry-wearing period or bioassay-sampling period, as the case may be.</p>	<ul style="list-style-type: none"> • Future Kiggavik IQMS – Dosimetry Monitoring Program
14. (1) Every licensee shall ensure that the equivalent dose received by and committed to an organ or tissue set out in column 1 of an item of the table to this subsection, of a person described in column 2 of that item, during the period set out in column 3 of that item, does not exceed the equivalent dose set out in column 4 of that item.	<ul style="list-style-type: none"> • Program to remain well below dose limits inherent in RP COP
<p>15. (1) During the control of an emergency and the consequent immediate and urgent remedial work, the effective dose and the equivalent dose may exceed the applicable dose limits prescribed by sections 13 and 14, but the effective dose shall not exceed 500 mSv and the equivalent dose received by the skin shall not exceed 5 000 mSv.</p> <p>(2) Subsection (1) does not apply in respect of pregnant nuclear energy workers who have informed the licensee in accordance with subsection 11(1).</p> <p>(3) The dose limits prescribed by sections 13 and 14 and subsection (1) may be exceeded by a person who acts voluntarily to save or protect human life.</p>	<ul style="list-style-type: none"> • While the probability of such an occurrence seems inconceivable for uranium mines and mills, all NEWs are informed of this section during Advanced RP training
<p>16. When a person becomes aware that a dose of radiation received by and committed to a person or an organ or tissue may have exceeded an applicable dose limit prescribed by section 13, 14 or 15, the licensee shall</p> <p>(a) immediately notify the person and the Commission of the dose;</p> <p>(b) require the person to leave any work that is likely to add to the dose;</p> <p>(c) conduct an investigation to determine the magnitude of the dose and to establish the causes of the exposure;</p> <p>(d) identify and take any action required to prevent the occurrence of a similar incident; and</p> <p>(e) within 21 days after becoming aware that the dose limit has been exceeded, report to the Commission the results of the investigation or on the progress that has been made in conducting the investigation.</p>	<ul style="list-style-type: none"> • Included as part of the RP COP for exceedence of an action level

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Radiation Protection Regulations	Kiggavik Project Information
<p>18. An application for a licence to operate a dosimetry service shall contain the following information in addition to the information required by section 3 of the General Nuclear safety and Control Regulations:</p> <ul style="list-style-type: none"> (a) a description of the proposed operation of the dosimetry service; (b) the proposed quality assurance program; (c) the types of dosimetry services proposed to be provided, including the types of radiation that will be monitored and their respective energy ranges; (d) the precision, accuracy and reliability of the dosimetry services to be provided; and (e) the proposed qualification requirements and training program for workers. 	<ul style="list-style-type: none"> • Future Kiggavik IQMS • Dosimetry Monitoring Schedule
<p>19. Every licensee who operates a dosimetry service shall file with the National Dose Registry of the Department of Health, at a frequency specified in the licence and in a form compatible with the Registry, the following information with respect to each nuclear energy worker for whom it has measures and monitored a dose of radiation:</p> <ul style="list-style-type: none"> (a) the worker's given names, surname and any previous surname; (b) the worker's Social Insurance Number; (c) the worker's sex; (d) the worker's job category; (e) the date, province and country of birth of the worker; (f) the amount of exposure of the worker to radon progeny; and (g) the effective dose and equivalent dose received by and committed to the worker. 	<ul style="list-style-type: none"> • Future Kiggavik IQMS • RP COP
<p>20. (1) No person shall possess a container or device that contains a radioactive nuclear substance unless the container or device is labelled with</p> <ul style="list-style-type: none"> (a) the radiation warning symbol set out in Schedule 3 and the words "RAYONNEMENT – DANGER – RADIATION"; and (b) the name, quantity, date of measurement and form of the nuclear substance in the container or device. <p>(2) Subsection (1) does not apply in respect of a container or device</p> <ul style="list-style-type: none"> (a) that is an essential component for the operation of the nuclear facility at which it is located; (b) that is used to hold radioactive nuclear substances for current or immediate use and is under the continuous direct observation of the licensee; (c) in which the quantity of radioactive nuclear substances is less than or equal to the exemption quantity; or (d) that is used exclusively for transporting radioactive nuclear substances and labelled in accordance with the Packaging and Transport of Nuclear Substances Regulations. 	<ul style="list-style-type: none"> • Future Kiggavik IQMS • RP COP

Radiation Protection Regulations	Kiggavik Project Information
<p>21. (1) Every licensee shall post and keep posted, at the boundary of and at every point of access to an area, room enclosure or vehicle, a durable and legible sign that bears the radiation warning symbol set out in Schedule 3 and the words "RAYONNEMENT – DANGER – RADIATION"; if</p> <p>(a) there is a radioactive nuclear substance in a quantity greater than 100 times its exemption quantity in the area, room, enclosure or vehicle; or</p> <p>(b) there is a reasonable probability that a person in the area, room, enclosure or vehicle will be exposed to an effective dose rate greater than 25 µSv/hr.</p>	<ul style="list-style-type: none"> • RP COP
<p>22. Whenever the radiation warning symbol set out in Schedule 3 is used,</p> <p>(a) it shall be</p> <p>(i) prominently displayed,</p> <p>(ii) of a size appropriate for the size of the container or device to which it is affixed or attached, or of the area, room, enclosure or vehicle in respect of which it is posted,</p> <p>(iii) in the proportions depicted in Schedule 3, and</p> <p>(iv) oriented with one blade pointed downward and centred on the vertical axis; and</p> <p>(b) no wording shall be superimposed on it.</p>	<ul style="list-style-type: none"> • Radiation Supervisor makes reference to these requirements when posting signs
<p>23. No person shall post or keep posted a sign that indicates the presence of radiation, a nuclear substance or prescribed equipment at a place where the radiation, nuclear substance or prescribed equipment indicated on the sign is not present.</p>	<ul style="list-style-type: none"> • RP COP identifies when signs are necessary. • Radiological monitoring establishes if and when signs can be removed
<p>24. Every licensee shall keep a record of the name and job category of each nuclear energy worker.</p>	<ul style="list-style-type: none"> • Records are maintained in RP database

Nuclear Substance and Radiation Devices Regulations	Kiggavik Project Information
<p>3. 1) An application for a licence in respect of a nuclear substance or a radiation device, other than a licence to service a radiation device, shall contain the following information in addition to the information required by section 3 of the <i>General Nuclear Safety and Control Regulations</i>:</p> <p>(a) the methods, procedures and equipment that will be used to</p> <p>(b) the methods, procedures and equipment that will be used while carrying on the activity to be licensed, or during and following an accident, to</p> <p>(i) monitor the release of any radioactive nuclear substance from the site of the activity to be licensed,</p> <p>(ii) detect the presence of and record the radiation dose rate and quantity in becquerels of radioactive nuclear substances at the site of the activity to be licensed,</p> <p>(iii) limit the spread of radioactive contamination within and from the site of the activity to be licensed, and;</p> <p>(iv) decontaminate any person, site or equipment contaminated as a result of the activity to be licensed;</p> <p>(c) a description of the circumstances in which the decontamination referred to in subparagraph (b)(iv) will be carried out;</p>	<ul style="list-style-type: none"> • Corporate IQMS • Future Kiggavik IQMS • RP COP
<p>(d) the proposed location of the activity to be licensed, including a description of the site;</p>	<ul style="list-style-type: none"> • Project Proposal – Sections 1.2, 2.1, 5 • Future licensing documents
<p>(e) the roles, responsibilities, duties, qualifications and experience of workers;</p>	<ul style="list-style-type: none"> • Corporate IQMS • Future Kiggavik IQMS
<p>(f) the proposed training program for workers;</p>	<ul style="list-style-type: none"> • Corporate IQMS • Future Kiggavik IQMS
<p>(g) the proposed instructions for dealing with accidents, including fires and spills, in which the nuclear substance may be involved;</p>	<ul style="list-style-type: none"> • Corporate IQMS • Future Kiggavik IQMS
<p>(h) the proposed inspection program for the equipment and systems that will be used to carry on the activity to be licensed;</p> <p>(i) the methods, procedures and equipment that will be used to calibrate radiation survey meters in accordance with these Regulations;</p> <p>(j) the methods, procedures and equipment that will be used to calibrate and verify the calibration of dosimeters referred to in paragraphs 30(3)(d) and (e);</p> <p>(k) the methods, procedures and equipment that will be used to conduct the leak tests and surveys required by these Regulations;</p>	<ul style="list-style-type: none"> • Corporate IQMS • Future Kiggavik IQMS
<p>(l) where the application is in respect of a nuclear substance that is an unsealed source and that is to be used in a room, the proposed design of the room;</p>	<ul style="list-style-type: none"> • To be described in future licensing documents and specific work instructions developed as part of the IQMS

Nuclear Substance and Radiation Devices Regulations	Kiggavik Project Information
(m) where the application is in respect of a nuclear substance that is contained in a radiation device, the name and model number of the radiation device, and the quantity of such devices	<ul style="list-style-type: none">• Future licensing documents will consist of a table identifying authorized nuclear substances and radiation devices

Packaging and Transport of Nuclear Substances Regulations	Kiggavik Project Information
<p>2. (1) Subject to subsection (2), these Regulations apply in respect of the packaging and transport of nuclear substances, including the design, production, use and maintenance of packaging and packages and the preparation, consigning, handling, loading, carriage, storage during transport, receipt at final destination and unloading of packages.</p>	
<p>18. (1) Every consignor, carrier and consignee of radioactive material shall implement a radiation protection program and shall, as part of that program,</p> <p>(a) keep the amount of exposure to radon progeny and the effective dose and equivalent dose received by and committed to persons as low as reasonably achievable, social and economic factors being taken into account, through the implementation of</p> <p style="padding-left: 40px;">(i) management control over work practices,</p> <p style="padding-left: 40px;">(ii) personnel qualification and training,</p> <p style="padding-left: 40px;">(iii) control of occupational and public exposure to radiation, and</p> <p style="padding-left: 40px;">(iv) planning for unusual situations;</p> <p>(b) prevent persons from receiving doses of radiation higher than the radiation dose limits prescribed by the Radiation Protection Regulations; and</p> <p>(c) train persons referred to in the program on the application of the program.</p> <p>(2) Every consignor, carrier and consignee shall</p> <p>(a) (a) keep a record of its radiation protection program and of any information collected under the program; and</p> <p>retain the record of information collected under the program for the period ending two years after the date on which it is collected.</p>	<ul style="list-style-type: none"> • Corporate IQMS • Future Kiggavik IQMS • RP COP • ALARA program implemented as part of IQMS

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