



PRELIMINARY HEARING CONFERENCE DECISION
CONCERNING
THE KIGGAVIK PROJECT
(NIRB FILE No. 09MN003)

PROPOSED BY
AREVA RESOURCES CANADA INC.



Date of Conference: June 4-6, 2013

Date of Decision: July 5, 2013

Issued by:

NUNAVUT IMPACT REVIEW BOARD

P.O. Box 1360

29 Mitik Street

Cambridge Bay, NU X0B 0C0

Telephone: (867) 983-4600

Fax: (867) 983-2594

E-mail: info@nirb.ca

Online Registry: <http://ftp.nirb.ca>

Website: www.nirb.ca

Cover photos: 1) Community Representatives at Pre-Hearing Conference (*photo by Sophia Granchinho*)
2) Baker Lake Community Representatives at Pre-Hearing Conference (*photo by Sophia Granchinho*)

TABLE OF CONTENTS

List of Acronyms	v
Executive Summary	vii
1.0 Background	1
1.1 Procedural History	1
1.2 Project Description Overview	7
2.0 Summary of Submissions from Parties	10
2.1 Nunavut Tunngavik Incorporated (NTI)	10
2.2 Kivalliq Inuit Association (KivIA)	10
2.3 Baker Lake Hunters and Trappers Organization (Baker Lake HTO)	10
2.4 Government of Nunavut (GN)	11
2.5 Aboriginal Affairs and Northern Development Canada (AANDC)	12
2.6 Canadian Nuclear Safety Commission (CNSC)	12
2.7 Environment Canada (EC)	12
2.8 Fisheries and Oceans Canada (DFO)	13
2.9 Health Canada (HC)	13
2.10 Natural Resources Canada (NRCan)	13
2.11 Transport Canada (TC)	14
2.12 Beverly and Qamanirjuaq Caribou Management Board (BQCMB)	14
2.13 Canadian Arctic Resources Committee (CARC)	16
2.14 Nunavummiut Makitagunarningit (Makita)	16
2.15 Communities of Baker Lake, Arviat, Chesterfield Inlet, Coral Harbour, Rankin Inlet, Repulse Bay and Whale Cove	16
2.16 AREVA Resources Canada Inc.	20
2.17 Submissions on Procedural Issues	20
3.0 Nunavut Impact Review Board Analysis and Decision	22
3.1 Jurisdiction of the Board	22
3.2 Final Environmental Impact Statement	22
3.3 Procedures Following Submission of the Final Environmental Impact Statement	28
4.0 Conclusions of the Board	32

Appendices

Appendix 1: AREVA's Commitments based on Technical Review Comments [May 8, 2013] ..	33
Appendix 2: Commitment List from Technical Meeting and post-Technical Meeting	46

List of Tables

Table 1: Participant Funding Review Committee Recommendations	2
---	---

List of Figures

Figure 1: Proposed Project Components (<i>adapted from the Kiggavik DEIS, Volume 1, Figure 2.1-1</i>)	9
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Figure 2: Process Map and Anticipated Timelines for NIRB’s Review of AREVA’s Kiggavik Mine Project	30
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List of Photos

Photo 1: Community Representatives asking questions at PHC (<i>photo by Amanda Hanson</i>)	6
Photo 2: Interveners asking questions at PHC (<i>photo by Amanda Hanson</i>).....	7
Photo 3: AREVA answering questions from Community Representatives (<i>photo by Sophia Granchinho</i>).....	7

LIST OF ACRONYMS

AANDC	Aboriginal Affairs and Northern Development Canada
BQCMB	Beverly and Qamanirjuaq Caribou Management Board
CARC	Canadian Arctic Resources Committee
CCME	Canadian Council of Ministers of the Environment
CEA	Cumulative Effects Assessment
CHRS	Canadian Heritage Rivers System
CNSC	Canadian Nuclear Safety Commission
COPC	Constituents of Potential Concern
DEIS	Draft Environmental Impact Statement
DFO	Fisheries and Oceans Canada
EA	Environmental Assessment
EC	Environment Canada
EIS	Environmental Impact Statement
ELC	Ecological Land Classification
ERA	Ecological Risk Assessment
FEIS	Final Environmental Impact Statement
GN	Government of Nunavut
GN-DoE	Government of Nunavut, Department of Environment
GNWT	Government of Northwest Territories
HC	Health Canada
HHRA	Human Health and Risk Assessment
HTO	Hunters and Trappers Organization
IAEATRS	International Atomic Energy Agency Technical Report Series
IIBA	Inuit Impact Benefit Agreement
INAC	Indian and Northern Affairs Canada
IR	Information Request
IQ	Inuit Qaujimajatuqangit
KitIA	Kitikmeot Inuit Association
KivIA	Kivalliq Inuit Association
km	Kilometre
lbs	Pounds
LKDFN	Lutsel K'e Dene First Nation
LSA	Local Study Area
Makita	Nunavummiut Makitagunarningit
MDL	Method Detection Limit
NHC	Nunavut Housing Corporation
NIRB	Nunavut Impact Review Board
NLCA	Nunavut Land Claims Agreement
NPC	Nunavut Planning Commission

NRCan	Natural Resources Canada
NSA	Nunavut Settlement Area
NTI	Nunavut Tunngavik Incorporated
NWB	Nunavut Water Board
OPEP	Oil Pollution Emergency Preparedness Plan
PHC	Preliminary Hearing Conference
RIP	Resin-In-Pulp
RSA	Regional Study Area
SEMC	Socio-Economic Monitoring Committee
TC	Transport Canada
TK	Traditional Knowledge
TMF	Tailings Management Facility
WMMP	Wildlife Mitigation and Monitoring Plan
WTP	Water Treatment Plant
ZOI	Zone of Influence

EXECUTIVE SUMMARY

Pursuant to the *Nunavut Land Claims Agreement* (NLCA), the function of the Nunavut Impact Review Board (NIRB or Board) is to assess the extent of the regional environmental and socio-economic impacts of the Kiggavik project proposal (Project) to determine whether it should proceed, and if so, under what terms and conditions. In carrying out this function, the primary objective by law is at all times to protect and promote the existing and future well-being of the residents and communities of the Nunavut Settlement Area (NSA), and to protect the ecosystemic integrity of the NSA, while also taking into account the well-being of residents of Canada outside of the NSA.

From June 4-6, 2013, the NIRB conducted Community Roundtables to hear from communities that may be potentially affected by the Project and a Preliminary Hearing Conference (PHC) to hear submissions on the following seven issues:

1. Anticipated date for submission of the Final Environmental Impact Statement.
2. Date, time and location of the Final Hearing.
3. Timetable for the exchange of documents and information requests prior to the hearing.
4. Formulation of issues for the hearing.
5. Procedures to be followed in the hearing.
6. Equipment, language, interpretation, translation and transcript requirements.
7. Other matters that may aid in the simplification of the hearing.

AREVA Resources Canada Inc. (AREVA or the Proponent) indicated that the anticipated date for submission of its FEIS would be September 30, 2014. Given the importance of filing a complete FEIS, the NIRB held that the timing of the filing of the FEIS and the process for its preparation is best left to the Proponent.

At this time, the Board is not in a position to schedule the date of the Final Hearing as it is recognized that this date is highly dependent on the actual date of the filing and acceptance of a complete FEIS submission. The Final Hearing date will be confirmed following the NIRB's receipt, compliance review and acceptance of the FEIS and upon the initiation of the technical review period. In scheduling the Final Hearing, the Board will also take into account its obligation to promote public participation pursuant to Section 12.2.27 of the NLCA and the Board's schedule of other ongoing assessments.

The Board has determined that the venue for the Final Hearing is to be the community of Baker Lake. The NIRB is committed to taking steps to ensure that representatives from each of the potentially affected communities (Arviat, Baker Lake, Chesterfield Inlet, Coral Harbour, Rankin Inlet, Repulse Bay, and Whale Cove) will have an opportunity to participate in the Final Hearing proceedings.

During the Final Hearing, formal technical presentations will be scheduled to take place first and will be organized by subject. Informal community roundtable sessions during the Final Hearing will follow the technical presentations. All parties are required to ensure sufficient technical

expertise is available for both the formal sessions and the community roundtable portion of the Final Hearing.

Once filed, the FEIS will be subject to a technical review period, including a minimum of 80 days for the preparation and provision of final written submissions by parties following the acceptance of the Proponent's FEIS and a 30 day period for AREVA to respond. At this time, the NIRB does not anticipate soliciting Information Requests (IRs) as part of the technical review of the FEIS. The Board reserves the right to extend the review period if it finds that additional time is necessary to deal with issues arising from the FEIS. Further, the NIRB reserves the right to schedule another meeting of technical experts (i.e., a technical meeting) and/or another PHC prior to the Final Hearing.

The NIRB believes that AREVA will resolve many of the technical issues raised by parties if it endeavours to comply with the specific direction and intention of the NIRB's Guidelines for the Preparation of the EIS for the Kiggavik Project (EIS Guidelines) and by fully meeting its commitments as set out in [Appendices 1 and 2](#) of this Decision. The Board encourages AREVA to continue to work with parties to resolve the balance of the issues identified at the Community Roundtable and the PHC.

Further, the Board requires that AREVA address the following within its FEIS:

- Collection and analysis of additional or updated baseline data;
- Provision of draft versions of various mitigation and/or monitoring plans;
- Updated effects assessment for various terrestrial wildlife species;
- Further discussion and clarification of best management practices;
- Evaluation and assessment of alternative road options and potential public access;
- Consideration of the recent listing of polar bear as a Species of Special Concern;
- Evaluation of effluent discharge scenarios and support for method selected;
- Provision of further discussion and analysis of community-level impacts;
- Reconsideration of the potential effects of the Kiggavik Project on caribou;
- Collection, incorporation and integration of additional Inuit Qaujimajatuqangit, including the use of other Aboriginal Traditional Knowledge;
- Revisions to the cumulative effects assessment;
- Provision of an updated analysis of labour force projections and a discussion of AREVA's hiring targets; and
- Provision of non-confidential updates regarding negotiations with the Kivalliq Inuit Association with respect to the required Inuit Impact and Benefits Agreement.

Subject to the variations set out in this Decision, the Final Hearing will proceed in accordance with the NIRB Rules of Procedure, dated September 3, 2009. The Board has decided to vary Rule 18.2 and 20.1(b) respectively to require notice of a meeting of technical experts (technical

meeting) and notice of a PHC to be given to the Proponent and project distribution list at least 30 days before the technical meeting or PHC.

The Board will establish equipment, language, interpretation, translation and transcript requirements at a later date.

In order to simplify the hearing, the Board encourages AREVA to hold community information sessions in all potentially affected communities prior to the Final Hearing. The information sessions should address the questions raised during the Community Roundtables and provide an overview of how the key conclusions in the FEIS were reached. The Board also encourages government reviewers to ensure corporate knowledge is appropriately transitioned as may be required leading up to technical review of AREVA's FEIS. The Board urges AREVA and the Government of Nunavut to finalize a wildlife data sharing agreement as soon as possible. The Board also encourages AREVA and the Government of Nunavut to engage in discussions with the Hamlet councils and social service providers in potentially affected communities in order to discuss the socio-economic impact assessment and related mitigation and monitoring plans prior to the Final Hearing. Finally, the Board recognizes the ongoing work undertaken by the Inuit Uqausinginnik Taiguusiliuqtiit, the KivIA, the CNSC and other agencies including those who have received participant funding to participate in the Review, and encourages these parties to continue with their efforts into the final stage of the NIRB's Review process.

1.0 BACKGROUND

1.1 Procedural History

On November 25, 2008 AREVA submitted its Kiggavik proposal to the Nunavut Impact Review Board (NIRB), the Nunavut Planning Commission (NPC), the Nunavut Water Board (NWB), the Canadian Nuclear Safety Commission (CNSC), Indian and Northern Affairs Canada (INAC, now Aboriginal Affairs and Northern Development Canada or AANDC) and the Kivalliq Inuit Association (KivIA) for the development of a uranium mining and milling project. On January 16, 2009 the NIRB received a positive conformity determination from the NPC for this Project (Keewatin Regional Land Use Plan, KRLUP). The correspondence from NPC also indicated that, with respect to sections 3.5 and 3.6 of the KRLUP which require review of all issues relevant to uranium exploration and mining by the NPC, as well as the approval of the people of the region, these requirements had been met.

The NIRB proceeded to screen the Kiggavik project in accordance with Part 4 of Article 12 of the NLCA, and on March 13, 2009 issued a Screening Decision Report to then-Minister of INAC (the Minister), the Honourable Chuck Strahl, recommending a review under Part 5 or 6 of Article 12 of the NLCA. On March 2, 2010, pursuant to Section 12.4.7 of the NLCA, the Minister referred the Project to the NIRB for a review of the ecosystemic and socio-economic impacts pursuant to Part 5 of Article 12 of the NLCA. In addition, pursuant to Section 12.5.1 of the NLCA, the Minister identified the following particular issues or concerns for the NIRB to consider during its Review of the Kiggavik project:

- The use of new technology for mine design, and operation and tailings containment. Specifically, the Minister stated that: *“It is essential that these aspects of the Proposal are thoroughly assessed in order to ensure impact predictions to surface and ground water are accurate.”*
- The importance of a thorough cumulative effects assessment. The Minister stressed that: *“Cumulative impacts of particular concern include those to caribou, caribou migration and calving grounds, and related socio-economic impacts to Baker Lake and other impacted communities.”*
- Scoping the proposal according to the Board’s jurisdictional authority.
- Ensuring the review is conducted in a manner which enables and supports meaningful participation of the public and facilitates thorough public consultation. In particular the Minister highlighted that: *“The very technical nature of some of the issues that have raised concern may warrant additional community information sessions.”*

On March 3, 2010 the NIRB distributed the Minister’s decision and commenced its Review of the Kiggavik project. On March 12, 2010 the NIRB issued correspondence describing the initial steps of the review process and the availability of participant (intervener) funding for this Review. The correspondence also included a *draft* Scope for the assessment of the Kiggavik project for review by parties; however, the NIRB indicated that it would not finalize the Scope of the project proposal until the funding review committee had an opportunity to review the applications from individuals or agencies requesting participant funding.

By April 13, 2010 the NIRB received applications from six interveners for participant funding for the Kiggavik Review and these applications were forwarded to the Minister on April 23, 2010.

Part of the NIRB's scoping process requires the development of a public participation and awareness program which engages the public and encourages effective participation throughout the review process. As an initial step, the NIRB conducted public scoping meetings from April 25 - May 10, 2010 in the communities throughout the Kivalliq region identified by the Board as having the potential to be impacted by the proposed Kiggavik project. As a result of the community meetings that took place, public awareness of the Board's Review increased and the NIRB received indications that additional parties were interested in applying for participant funding to facilitate their participation in the Review of this project. To ensure procedural fairness, the NIRB extended the deadline for the submission of participant funding applications for the Kiggavik review to June 1, 2010. New and/or revised applications for participant funding were received from ten interveners. On June 15, 2010 the NIRB issued the *Public Scoping Meetings Summary Report, April 25 – May 10, 2010 for the NIRB's Review of AREVA Resources Canada Inc.'s Kiggavik Project*, which included meeting notes, comments and concerns raised during visits to the above noted communities. The NIRB incorporated comments and concerns from community sessions into its *Draft Guidelines for the Preparation of the Environmental Impact Statement for the Project (Draft EIS Guidelines)*.

In correspondence dated August 3, 2010 INAC advised the Board of the award of participant funding to seven applicants based on the recommendations of the Participant Funding Review Committee, and subject to each party being able to enter into and meet the requirements of a contribution funding agreement. Participant funding was awarded to the Beverly and Qamanirjuaq Caribou Management Board (BQCMB), Canadian Arctic Resources Committee (CARC), Nunavummiut Makitagunarningit (Makita), Athabasca Denesuliné (Prince Albert Grand Council), Baker Lake Hunters and Trappers Organization (HTO), Lutsel K'e Dene First Nation (LKDFN) and the Hamlet of Baker Lake. The following table provides a summary of the Committee's recommendations in each case where funding was made available.

Table 1: Participant Funding Review Committee Recommendations

Intervener	Request by Intervener	Participant Funding Review Committee Recommendation
BQCMB	Funding requested to participate in all phases of the NIRB review.	Funding to BQCMB highest priority and recommend funding for local collection or distribution of information, professional fees (excluding legal fees), travel expenses, office supplies and rental of office or meeting space. Further, Committee believed that workshops held with a facilitator to obtain knowledge from local experts will be especially valuable.
Baker Lake HTO	Funding requested to participate in all phases of the review.	Funding highest priority as far as HTO's interest in the Project and value of traditional knowledge (TK) their members can contribute to the Review. Funding recommended for local collection and distribution of information, professional fees, travel expenses, office supplies, rental of office or meeting space, legal fees, and general media advertising or promotion. The award included funding to collect TK from its members and to hold meetings to this end.
Makita	Funding requested to participate in all phases and steps of the NIRB's	Committee believed Makita would bring a unique perspective through their contributions of both scientific and Inuit knowledge to the Review. Funding was awarded for local collection/distribution of

	Review process.	information, professional fees (excluding legal fees), travel expenses, and office supplies which included the anticipated cost of hiring professional translators.
Hamlet of Baker Lake	Funding requested to review the ecosystemic and socio-economic impacts of the project and to be involved in each and every step of the Review process.	The most important role of the Hamlet would be to inform residents and create awareness in the community and recommended funding for this as well as to support activities of the staff already hired on contract to provide for community and economic development. Funding was awarded to the Hamlet for local collection/distribution of information and professional fees (excluding legal fees).
CARC	Funding requested to participate in all phases of the Review.	Significant overlap of the application with the proposed contributions of the BQCMB's, which would be better suited in addressing the issues in question. Recommended funding for travel expenses to participate in the Review.
Athabasca Denesuliné	Funding requested to participate in all phases of the Review.	Athabasca Denesuliné have a legitimate interest in the Project, but are represented by the BQCMB. Recommended funding for travel expenses to participate in the Review.
LKDFN	Funding requested to participate in all phases of the Review.	LKDFN have a legitimate interest in the Project, but are represented by the BQCMB. Recommended funding for travel expenses to participate in the Review.

On November 15, 2010 the NIRB solicited public comments on the *Revised Draft Scope and Draft EIS Guidelines* for the preparation of an EIS by AREVA for the Kiggavik project and requested that parties provide comments to the Board based on their area of expertise and/or mandate on or before January 24, 2011. On or before January 25, 2011 comments were received from the KivIA and Nunavut Tunngavik Incorporated (NTI) (joint submission), GN, CNSC, Environment Canada (EC), Fisheries and Oceans Canada (DFO), Health Canada (HC), INAC, Natural Resources Canada (NRCan), Transport Canada (TC), Athabasca Denesuliné, BQCMB, CARC, LKDFN, Makita, and Laura Bowman (private citizen). Some of the issues and concerns raised by parties in comment submissions to the Board, though important to the review process, were not directly related to the EIS Guidelines and were addressed by the Board in a letter to parties dated March 2, 2011.

On November 23, 2010 the NIRB responded to concerns raised by Makita regarding the translation of the NIRB's *Draft EIS Guidelines*. The NIRB indicated that as the EIS Guidelines are highly technical in nature and written for the Proponent, to date these documents had not been translated into Inuktitut by the NIRB, just as proponents had not been required to submit an EIS which is fully translated into Inuktitut, but rather must translate the popular and executive summaries which are less technical in nature. The Board had requested assistance with the translation of the EIS Guidelines from the Director of Official Languages with the Government of Nunavut's department of Culture, Language, Elders and Youth (now Culture and Heritage) which describe technical concepts and terminology that do not readily translate into Inuktitut.

On February 9, 2011 the NIRB released the *Final Scope* for the assessment of AREVA's Kiggavik project and requested that interested parties and responsible authorities review the *Revised Draft EIS Guidelines* and provide comments to the Board based on their area of expertise and/or mandate on or before March 2, 2011.

From March 22-24, 2011, following the receipt of comments on the *Revised Draft EIS Guidelines*, the NIRB hosted an EIS Guidelines workshop in the community of Baker Lake. The

objective of the workshop was to bring together parties with jurisdictional authority over the proposed project and/or with technical expertise to offer in order to assist the NIRB in finalizing the Guidelines for the Proponent's preparation of an EIS. The NIRB also held a community information session in Baker Lake at that time in order to provide community members with information related to uranium mining and uranium issues as was requested by the public during the scoping meetings that were held in the Kivalliq region in 2010. Further, the NIRB staff contributed to the uranium terminology workshop that was held concurrently in Baker Lake from March 21-25, 2011 by the Inuit Uqausinginnut Taiguusiliuqtiit (Inuit Language Authority).

Pursuant to Section 12.5.2¹ of the NLCA, on May 3, 2011 the NIRB issued the *Guidelines for the preparation of an Environmental Impact Statement for the Kiggavik project proposal (NIRB File No. 09MN003)* to AREVA.

On December 21, 2011 AREVA submitted its *Draft EIS (DEIS)* for the Kiggavik project to the NIRB. The Board initiated an internal review of the DEIS to determine whether or not it conformed to the EIS Guidelines issued to AREVA on May 3, 2011. On January 18, 2012 the NIRB issued correspondence to the Proponent which indicated that the DEIS did *not* conform to the EIS Guidelines and requested that it provide a resubmission which would address the deficiencies identified during the Board's conformity review. On April 25, 2012 the NIRB received AREVA's revised submission of the DEIS for the Kiggavik project and commenced an internal review of the DEIS resubmission to determine whether the submission conformed to the EIS Guidelines and the outstanding requirements as identified the Board's January 18, 2012 correspondence. On May 4, 2012 the NIRB accepted AREVA's submission as a DEIS and commenced the technical review period. The DEIS was distributed to the public and interested parties with an invitation to submit Information Requests (IRs) to the NIRB by June 4, 2012.

From May 22-31, 2012 the NIRB held public information meetings in the communities of Arviat, Baker Lake, Chesterfield Inlet, Coral Harbour, Rankin Inlet, Repulse Bay and Whale Cove to discuss the information presented in AREVA's DEIS for the Project. On April 30, 2013 the NIRB issued its *Public Information Meetings Summary Report, May 22 – May 30, 2012 for the NIRB's Review of the Kiggavik Project*.

The IR submission deadline was extended to June 29, 2012 at the request of the CNSC, GN and the KivIA. IRs were received from KivIA/NTI (joint submission), GN, AANDC, CNSC, EC, DFO, HC, NRCan, TC, Baker Lake HTO, BQCMB, CARC, LKDFN, and Makita. The NIRB forwarded those that IRs that it considered to be appropriate to AREVA and to other parties on July 13, 2012. The NIRB considered a number of submitted IRs to be technical comments more appropriately addressed at a later stage in the process. The parties to whom IRs were directed for response were asked to provide the NIRB with an indication of anticipated timelines for submission of responses on or before July 31, 2012. The timeline was later extended to August 31, 2012 at the request of AREVA.

¹12.5.2: "When a project proposal has been referred to NIRB by the Minister for review, NIRB shall, upon soliciting any advice it considers appropriate, issue guidelines to the Proponent for the preparation of an impact statement. It is the responsibility of the Proponent to prepare an impact statement in accordance with any guidelines issued by NIRB..."

On or before August 31, 2012 the NIRB received responses to IRs from EC in response to BQCMB's IRs; NPC in response to Makita's IRs; AANDC in response to BQCMB's IRs, and GN in response to Makita's IRs. On August 30, 2012 AREVA indicated that it would be in a position to submit its IR Response package to the NIRB on January 31, 2013. On September 20, 2012 the NIRB issued correspondence to AREVA requesting that it identify whether additional time would be required for future stages in the NIRB's Review. In its September 28, 2012 response, AREVA indicated its intention to participate in the NIRB's Review such that it may proceed in a timely, predictable, and efficient manner, and also requested that the NIRB consider providing 30 days for AREVA to respond to technical review comments in order to maximize the value of technical meetings in resolving outstanding issues. The NIRB found this request reasonable and amended its Review timeline projections accordingly.

On December 4, 2012 the KivIA/NTI provided the NIRB with responses to IRs from the Baker Lake HTO and Makita.

On January 31, 2013 AREVA submitted an IR Response package to the NIRB. On February 6, 2013 after conducting a preliminary completeness check to ensure that adequate information had been provided by all parties, the NIRB commenced a 60 day technical review period and tentatively scheduled a Technical Meeting and PHC. Parties were requested to review the DEIS and provide their technical review comments on the Kiggavik project to the Board by April 8, 2013.

On February 27, 2013 the NIRB provided confirmation that the Technical Meeting would be held in Rankin Inlet from May 28-31, 2013, and that the Community Roundtable and the PHC would be held in Baker Lake from June 4-6, 2013. The correspondence also provided further information describing the process and expectations for both the Technical Meeting and the PHC.

On or before April 11, 2013 technical review comments were received from the KivIA/NTI (joint submission), GN, AANDC, CNSC, EC, DFO, HC, NRCan, TC, Baker Lake HTO, BQCMB, CARC and Makita. The NIRB provided AREVA with an opportunity to prepare a response to the technical review comments that would facilitate discussion at the Technical Meeting. On May 8, 2013 AREVA submitted its responses to the DEIS technical review comments, which contained 177 commitments to the NIRB regarding the development of the FEIS and an additional 38 commitments for the post-EA period ([Appendix 1](#)).

The Technical Meeting was held in Rankin Inlet from May 28-31, 2013 with participation from the following parties: AREVA, NTI, KivIA, Baker Lake HTO, GN, CNSC, AANDC, EC, DFO, NRCan (*via teleconference*), TC and BQCMB (*via teleconference*). During the Technical Meeting, AREVA made a further 94 commitments to be completed for the *Final* EIS or post-environmental assessment (at the licensing/permitting stage), 20 of which were revisions of its May 8th commitments. In addition, DFO and the GN each made 3 commitments and KivIA made 1 commitment ([Appendix 2](#)).

The Community Roundtable and PHC were facilitated by the NIRB's Chairperson, Elizabeth Copland and were held from June 4-6, 2013 in Baker Lake. Two to three community representatives from each of the 6 other Kivalliq communities were brought to Baker Lake to

All documentation cited above and associated with the NIRB's Review of the Kiggavik Project can be accessed from the NIRB's online public registry using the following link:

NIRB Preliminary Hearing Conference Decision for the Kiggavik Project
File No. 09MN003



Photo 2: Intervenors asking questions at PHC
(photo by Amanda Hanson)



Photo 3: AREVA answering questions from community representatives
(photo by Sophia Granchinho)

1.2 Project Description Overview

The Kiggavik Project as proposed involves a uranium ore mining and milling operation located in the Kivalliq region of Nunavut approximately 80 kilometre (km) west of the community of Baker Lake. The Project would comprise of three main areas referred to as the Kiggavik site, the Sissons site and the Baker Lake Dock facility. The Kiggavik and Sissons sites are located approximately 17 km apart, and would be connected via a proposed mine haul road. Three uranium ore deposits would be mined using open pit techniques at the Kiggavik site: East Zone, Centre Zone and Main Zone. A uranium mill, related facilities, main accommodations and

landing strip would also be located at the Kiggavik site. The Sissons site contains two uranium ore deposits which would be mined via open pit and underground methods: Andrew Lake and End Grid. Mineral resources are estimated at approximately 51,000 tonnes uranium (133 million lbs. U_3O_8) at an average grade of 0.46% uranium. The Baker Lake dock facility would serve as a storage facility for materials and supplies prior to being transported to Kiggavik via truck by either a winter or an all-season access road. It is proposed that the dock facility would operate during the open water season only.

All extracted ore from the mine sites would be processed through a mill located at the Kiggavik site using hydrometallurgical processes. Mined out pits at the Kiggavik site would sequentially be used as tailings management facilities (TMF) with the East Zone pit potentially serving as the initial TMF, followed by Centre Zone and Main Zone pits. The proposal includes the construction of an ore storage pad that would facilitate blending of ore prior to transport to the stockpile at the Kiggavik site.

The uranium product produced through the milling process (also known as “yellowcake”) would be packaged and transported only via aircraft to connect with transportation networks in southern Canada. Initially, mill reagents, fuel and other supplies would be transported by ship and barge to the proposed dock at Baker Lake and then by truck to the Kiggavik Project over a southern winter access road, AREVA’s preferred access road alternative. An all-season access road between Baker Lake and the Kiggavik Site is an alternative under consideration in the event that the winter road cannot adequately support the Project over its life-span. AREVA is seeking approval for both a southern winter road and an all-season access road. [Figure 1](#) shows the major Project components including access road alternatives.

Based on existing resources, pre-operational construction is estimated at 3-4 years, with a mine operation life estimated at 12 years with decommissioning anticipated to last five years and post decommissioning monitoring lasting an additional 10 years. The Proponent has noted that, should additional resources be encountered, the life of the mill may be extended to allow for extraction and processing of the subsequent resource. Decommissioning of the Project would include demolition of the site and reclamation of any contaminated areas. Closure of the TMFs would involve covering and then blending the final cover in with the existing topography. Mine rock piles would be covered and re-graded to promote vegetative growth and to provide wildlife access. Decommissioning plans and financial security would be required for the Kiggavik Project.

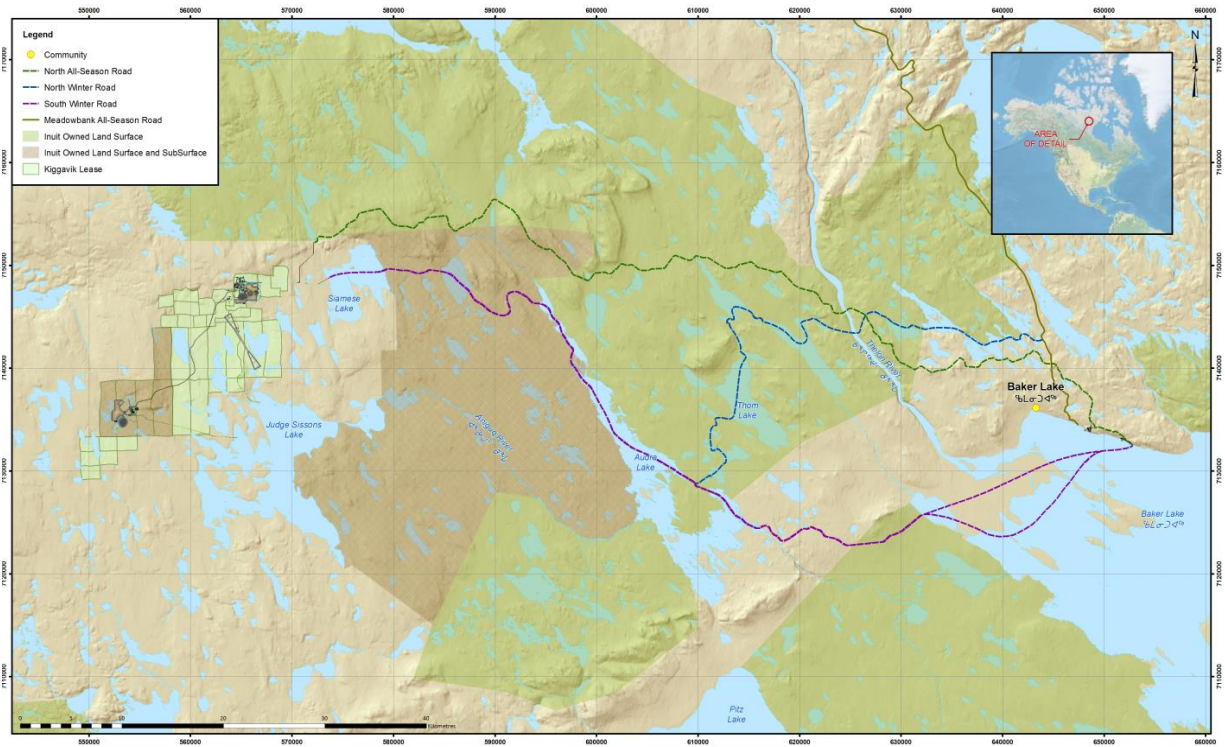


Figure 1: Proposed Project components (*adapted from the Kiggavik DEIS, Volume 1, Figure 2.1-1*)

2.0 SUMMARY OF SUBMISSIONS FROM PARTIES

2.1 Nunavut Tunngavik Incorporated (NTI)

NTI collaborated with the KivIA in a joint technical review of the DEIS and participated in the Technical Meeting and PHC. NTI did not identify any outstanding issues separate from those identified by KivIA.

2.2 Kivalliq Inuit Association (KivIA)

The KivIA collaborated with NTI on a joint technical review of the DEIS. KivIA/NTI submitted 32 information requests and identified 110 technical issues in their review of the DEIS. The technical issues were classified into 5 categories, and 19 issues were ranked as high potential issues requiring resolution prior to project advancement. KivIA participated in the Technical Meeting and PHC. AREVA made a large number of commitments in respect of KivIA's issues, in both its response to the technical comments and at the Technical Meeting (see [Appendices 1 and 2](#)).

At the PHC, the KivIA identified the following three outstanding issues:

1. The KivIA noted concerns regarding wind dispersion of dust and contaminants from large stockpiles of Type 3 mine rock. AREVA has committed to provide within the FEIS a framework for the development of a Dust Monitoring and Mitigation Plan, with opportunity to be provided to the KivIA to review and comment on the Plan. The KivIA submitted that the mine rock stockpiles should be covered or managed to prevent wind dispersion of contaminants in the dust.
2. The KivIA commented that there is no track record in the north for AREVA's proposed use of the resin-in-pulp (RIP) method as the preferred milling option, rather than the more conventional counter-current decantation and solvent extraction (CCD/SX) method. The KivIA is concerned about the implications of resin attrition on downstream contamination of tailings. AREVA provided additional information on resin attrition in its response to the KivIA's technical comment, which it has committed to include in the FEIS. The KivIA submitted that additional testing or piloting of the RIP method, being carried out by SGS Canada, should be submitted as part of the FEIS and reviewed to confirm that the RIP method will be safe and effective.
3. The KivIA submitted that AREVA's FEIS needs to address the communities' concerns with increased marine traffic associated with the project including traffic up the narrows through Chesterfield Inlet and Baker Lake. Specifically marine safety, the need for depth charts and depth finders on ships and barges and noise and disturbance of marine mammals.

2.3 Baker Lake Hunters and Trappers Organization (Baker Lake HTO)

The Baker Lake HTO submitted 37 information requests, identified 20 technical issues in its review of the DEIS and participated in the Technical Meeting and PHC. AREVA made

commitments in respect of some of the issues in its response to Baker Lake HTO's technical comments and at the Technical Meeting (see [Appendices 1 and 2](#)).

At the PHC, the Baker Lake HTO identified the following five major outstanding issues:

1. Baker Lake HTO submitted that AREVA's Inuit Qaujimagatuqangit (IQ) study was entirely insufficient for an environmental impact statement of the Kiggavik project. Baker Lake HTO indicated that it intends to use intervener funding to conduct its own study of the Kiggavik area.
2. Baker Lake HTO submitted that AREVA's use of collected IQ information is not clear in the DEIS. It acknowledged that AREVA has committed to provide further clarity in the FEIS on how IQ was integrated into the assessment, and reserved judgement on the issue pending review of the FEIS.
3. Baker Lake HTO submitted that AREVA did not consider possible impacts on Inuit harvesting in any meaningful way, particularly the potential for the project to cause animals to avoid important Inuit hunting areas. Baker Lake HTO acknowledged that AREVA has made a number of commitments to improve the assessment of wildlife impacts, but expressed concern that AREVA may be unable to properly do so because of its poor understanding of Inuit harvesting practices.
4. Baker Lake HTO is concerned that, if the Kiggavik project is developed, it will encourage more uranium mines and more exploration for uranium in the area. It submitted that AREVA failed to consider where those mines and exploration activities may be located, and therefore failed to properly assess cumulative impacts for the Kiggavik project.
5. Baker Lake HTO stated that it was unsure whether or not the majority of the community supports AREVA's proposal, because no public vote was held in Baker Lake.

2.4 Government of Nunavut (GN)

The GN submitted 86 information requests and made 46 technical comments following the review of the DEIS by its Environment and Human Health Assessment Committee, led by the Department of Environment, and its Socio-economic Assessment Committee, led by the Department of Economic Development and Transportation. A number of members of the GN Review Team participated in the Technical Meeting and PHC. AREVA made commitments in respect of most of the GN's issues in its response to the technical comments at the Technical Meeting and subsequently (see [Appendices 1 and 2](#)).

At the PHC, the GN identified the following three outstanding issues:

1. The GN submitted that the effects assessment for species other than caribou, (e.g., grizzly bear and wolverine), was not always supported by the data in the DEIS.
2. The GN stated that it remains concerned with effects from an all-season access road, and reserved judgement on this matter pending review of an assessment of harvesting impacts and a revised cumulative effects assessment (CEA) in the FEIS.

3. The GN submitted that it is not yet convinced that site reclamation can be completed within a reasonable timeframe.

2.5 Aboriginal Affairs and Northern Development Canada (AANDC)

AANDC submitted 69 information requests and 23 technical comments following its review of AREVA's DEIS, and participated in the Technical Meeting and PHC. AREVA made a large number of commitments in respect of AANDC's issues in its response to the technical comments at the Technical Meeting (see [Appendices 1 and 2](#)). At the PHC, AANDC advised that AREVA's commitments to provide additional information in the FEIS, as well as during the future licensing phase for the project, addressed its concerns, and that AANDC had no outstanding issues.

2.6 Canadian Nuclear Safety Commission (CNSC)

The CNSC reviewed those aspects of the DEIS that fell within its mandate under the *Nuclear Safety and Control Act*. The CNSC submitted 39 information requests and a detailed technical review of those parts of the DEIS reviewed. With its detailed technical review comments, the CNSC submitted 59 specific requests for AREVA to provide additional information in the FEIS or subsequently. AREVA addressed many of the requests with commitments in its response to CNSC's technical comments (see [Appendix 1](#)). The CNSC participated in the Technical Meeting, where AREVA made a number of additional commitments to address the CNSC's outstanding issues (see [Appendix 2](#)). At the PHC, the CNSC advised that it was fully satisfied with AREVA's responses and commitments, and that it had no outstanding issues.

2.7 Environment Canada (EC)

EC submitted 31 information requests and 57 technical comments following its review of the DEIS. EC also participated in the Technical Meeting and PHC. AREVA made a number of commitments in respect of EC's issues in its response to the technical comments, at the Technical Meeting, and subsequently (see [Appendices 1 and 2](#)). At the PHC, EC advised that the majority of its issues were resolved by AREVA's commitments. EC identified the following surface water issues which it considers only partially resolved:

1. EC questioned how Option #1 was considered to be the most conservative scenario for assessing the discharge of wastewater to Judge Sissons Lake. EC submitted that AREVA should undertake a more detailed evaluation of effluent discharge scenarios in the FEIS to support the selection of one option as the worst case for impact assessment purposes.
2. EC raised an issue with the baseline cadmium concentration in surface water, which was calculated assuming that samples reported as below the method detection limit (MDL) had a concentration of 50% of the MDL. As a result, the average baseline cadmium concentration used in the DEIS was higher than the CCME Water Quality Guideline. AREVA has committed to making every effort to obtain the lowest detection limit for cadmium (see [Appendix 1](#), Commitment 8X), and does not expect an adverse effect from cadmium in wastewater. However, EC submitted that the baseline water quality issue is only partially resolved pending resolution of the cadmium MDL issue.

3. EC had three additional technical comments on the issue of cadmium concentrations in wastewater, all of which relate to the MDL issue discussed above. EC's concerns relate to potential adverse environmental effects of AREVA's proposed wastewater discharge on fish populations and zooplankton. While AREVA does not expect an adverse effect from cadmium in wastewater, EC submitted that its issues with potential cadmium impacts in surface water and sediment are only partially resolved pending resolution of the cadmium MDL issue.

2.8 Fisheries and Oceans Canada (DFO)

DFO submitted 17 information requests following its review of the DEIS. DFO requested additional information about 9 of those requests in its technical comments. DFO also participated in the Technical Meeting and PHC. AREVA made a number of commitments in respect of DFO's requests for additional information in its response to the technical comments and at the Technical Meeting (see [Appendices 1 and 2](#)). At the PHC, DFO advised that it was satisfied that AREVA's addressed all of its outstanding issues, including a commitment to collect additional baseline data in Judge Sissons Lake at the licensing stage.

2.9 Health Canada (HC)

HC submitted 12 information requests following review of the DEIS. In its technical comments, HC submitted additional comments on 8 of the 12 responses provided by AREVA, and 18 additional technical comments on radiological impacts to human health. AREVA dealt with, and/or made commitments in respect of most of HC's issues in its responses to the technical comments (see [Appendix 1](#)). HC did not participate in the Technical Meeting or PHC.

The following HC technical issues appear to the Board to remain outstanding:

1. HC requested that AREVA provide information on how the exposure for a given pathway was determined to be minimal impact in Table HC 2-1, provided in response to a HC information request. In its response to HC's technical comment, AREVA committed to including the new table in the FEIS, but did not commit to providing the additional information requested by HC.
2. HC requested that AREVA provide clarification on whether the mean or 95th percentile values for constituents of potential concern (COPCs) in air, water, sediment, soil and vegetation were used in the Human Health and Risk Assessment (HHRA). AREVA does not appear to have addressed this request in its *Responses to DEIS Technical Comments*.

2.10 Natural Resources Canada (NRCan)

NRCan submitted 11 information requests arising from its review of the DEIS. NRCan raised 5 issues in its technical comments, and participated in the Technical Meeting via telephone. AREVA made a number of commitments in respect of NRCan's issues in its response to the technical comments and at the Technical Meeting (see [Appendices 1 and 2](#)). NRCan attended the PHC, where it advised that it had no substantial outstanding technical concerns which had not been addressed by AREVA's commitments.

2.11 Transport Canada (TC)

TC submitted 8 information requests arising from its review of the DEIS, and raised 15 issues in its technical comments. TC staff participated in the Technical Meeting in person and via telephone. AREVA made commitments in respect of TC's issues in its response to the technical comments (see [Appendix 1](#)). TC was in attendance at the PHC, where it advised that it had no outstanding technical concerns which had not been addressed by AREVA's commitments.

2.12 Beverly and Qamanirjuaq Caribou Management Board (BQCMB)

BQCMB submitted 25 information requests and 12 technical comments concerning AREVA's DEIS. BQCMB participated in the Technical Meeting by telephone, and attended the PHC in person. AREVA made commitments with respect to some of BQCMB's issues in its response to the technical comments (see [Appendix 1](#)).

At the PHC, BQCMB advised that, based on the available information, it does not accept AREVA's conclusions that there will not be significant project specific and cumulative effects on caribou or to the well-being of the people who depend on caribou across their annual ranges. BQCMB identified the following outstanding issues:

1. AREVA should clearly demonstrate in the FEIS how IQ has been integrated into adaptive mitigation and monitoring plans that are designed to prevent or reduce project-related effects on the environment.
2. AREVA needs to obtain and summarize Aboriginal TK from other caribou range communities outside of Nunavut, and use this TK information in the FEIS to assess the effects and cumulative effects of the Kiggavik Project on caribou. Further, AREVA is to develop mitigation measures and monitoring programs for caribou, with emphasis on experience with roads and dust fall.
3. BQCMB submitted that the DEIS under-estimates potential effects on 'Resident' or Baker Lake herd(s) because baseline information is inadequate and does not integrate historical and local knowledge.
4. BQCMB submitted that AREVA's reliance in the DEIS on a single technique (collar data) and limited analyses reduces certainty for the assessment of effects on caribou movements. BQCMB requested that in the FEIS, AREVA 1) re-assess the conclusion of project effects on caribou movements using revised methods and integrate all available information; 2) provide descriptive statistics and statistical analyses to capture the annual and individual variation in movements relative to the project site and roads; and 3) address the need to integrate the collar information with other information sources.
5. BQCMB submitted that AREVA inadequately assessed the overall environmental effects for caribou in the DEIS. BQCMB requested that for the FEIS, AREVA 1) undertake a habitat availability analysis including more than vegetation classification at a scale appropriate for project-specific and cumulative effects; 2) apply appropriate quantitative analyses for integrating effects on habitat availability, mortality, movement and health to

assess overall Project-specific and cumulative effects; and 3) ensure that climate change trends are included in the CEA.

6. BQCMB submitted that the DEIS does not specify mitigation measures to reduce the extent of the area from which caribou will likely be displaced around the mine site. BQCMB requested that the FEIS 1) justify whether and how a 14 km zone of influence (ZOI) is a fixed effect or could be reduced in extent; 2) explain clearly how the 14 km ZOI will be monitored relative to published experience that use of satellite collars for measuring the extent of the ZOI is limited by small sample size; 3) describe the linkage between monitoring and adaptive mitigation for noise, sensory disturbance and dust fall with thresholds for modifying the mitigation intensity to reduce the extent of the ZOI; and 4) address the extent of the ZOI as a factor in determining cumulative effects.
7. BQCMB submitted that its concern with the cumulative effects of radioactivity in the lichen-caribou forage pathway has only been partially addressed by AREVA's commitments.
8. BQCMB submitted that the cumulative effects analysis in the DEIS needs to be redone in the FEIS with an expanded list of projects and the description of the analysis of effects on caribou needs to be clearly explained. BQCMB requested that in the FEIS, AREVA 1) revise the list of Reasonably Foreseeable Projects, especially for roads, including trans-boundary projects; 2) list projects including industrial exploration projects for the base case and indicate how they are considered in the assessment; and 3) update the cumulative effects analysis to include the spatial footprint for the additional projects.
9. BQCMB submitted that it is unclear in the DEIS how cumulative effects will be mitigated to ensure effects on caribou will be insignificant and will not reduce sustainability. BQCMB requested that, in preparing the FEIS, AREVA 1) collaborate with the GN and the Nunavut Wildlife Management Board to clarify what options are available for cumulative effects mitigation with timelines for implementation; and 2) provide a clear justification for how project-specific mitigation can, if necessary, be enhanced to ensure the sustainability of the caribou herds is maintained.
10. BQCMB submitted that the potential for roads to act as a partial barrier (via deflection) to caribou movements was not adequately assessed in the DEIS and that the effectiveness of proposed mitigation was not demonstrated. BQCMB requested that, in the FEIS, AREVA 1) re-examine experience with the effect of roads on caribou movements including whether or not the effectiveness of mitigation has been demonstrated; 2) re-examine with analyses and descriptive statistics the likelihood and potential crossing points for caribou for the proposed road routes, based on all information about caribou movements (not only data from collared cows), including IQ; 3) demonstrate how uncertainty about future herd distribution and movements, and the precautionary principle are applied to AREVA's conclusions about the project effects on movements; and 4) provide detailed information on the undesignated water-crossings to ensure that the crossings are designated as caribou crossings where appropriate.

2.13 Canadian Arctic Resources Committee (CARC)

CARC submitted 20 information requests for response by AREVA, as well as requests to AREVA and the GN for electronic data to allow CARC to conduct an independent scientific analysis of potential impacts to caribou. CARC subsequently submitted 6 technical comments on the DEIS. CARC's comments appear to overlap significantly with those of other parties. CARC did not participate in the Technical Meeting or PHC. As a result, the Board is unable to confirm whether CARC's technical comments are fully covered by AREVA's responses to the technical comments and/or commitments, or the outstanding issues identified by other parties. It appears to the Board that all of CARC's technical comments have either been dealt with in AREVA's FEIS commitments, or are the subject of outstanding issues identified by other parties at the PHC.

2.14 Nunavummiut Makitagunarningit (Makita)

Makita submitted 24 information requests and 7 technical comments on the DEIS, but did not participate in the Technical Meeting or PHC. Makita's technical comments overlap significantly with those of other parties. Without benefit of Makita's further input at the Technical Meeting or PHC, it is difficult for the Board to be certain that all issues are fully covered by AREVA's responses to the technical comments and/or FEIS commitments, or the outstanding issues of other parties (as outlined above).

It appears to the Board that Makita's Technical Comment #6 was not addressed by AREVA in a commitment, nor was it identified as an outstanding issue by other parties:

1. (*Technical Comment #6*) Makita submitted that AREVA should provide comprehensive discussions of community-level impacts for the communities of Baker Lake and Chesterfield Inlet, including significance determinations for all aspects of the socio-economic environment studied in the EIS. In its *Responses to DEIS Technical Comments*, AREVA proposed that the request for community specific impact assessments be discussed at the technical meetings, noting that it believed that the preparation of matrices for Baker Lake and Chesterfield Inlet, presented with some commentary on conclusions, will provide an accessible response to concerns that residents of the two hamlets find it challenging to interpret the documentation as it applies specifically to them.

In the absence of Makita, this issue was not discussed at the Technical Meeting.

2.15 Communities of Baker Lake, Arviat, Chesterfield Inlet, Coral Harbour, Rankin Inlet, Repulse Bay and Whale Cove

The communities of Baker Lake, Arviat, Chesterfield Inlet, Coral Harbour, Rankin Inlet, Repulse Bay and Whale Cove were represented at the Community Roundtable held in Baker Lake. Mayor Joe Aupaluktuq made submissions at the PHC on behalf of the Hamlet of Baker Lake.

Mayor Aupaluktuq stated that the Hamlet had not seen any information on benefits for Baker Lake, even though it would experience many of the impacts from the proposed project. He described the infrastructure issues in his growing community with the “*need for more RCMP*,”

social services and a larger health centre”. He expressed concern that there has been limited consultation with local beneficiaries on the proposed project and on Inuit Impact Benefit Agreement (IIBA) negotiations. The Mayor questioned why the Hamlet has not been invited to a community consultation on benefits. He stated that he believed that the current practice is that the community should have a right to vote on a new mine and on uranium mining. The Mayor said that Council is not against mining, but that there are effects which need to be considered.

Community representatives and Baker Lake residents raised issues and asked questions during the Community Roundtable and PHC concerning a wide variety of issues, including impacts of the mine and access road on caribou, impacts of increased shipping on marine mammals, the long-term impacts of tailings, priority in training and employment opportunities for Kivalliq residents, use of the access road, the storage and shipment of yellowcake and radiation exposure risks. The following provides a summary of the issues and questions raised by community:

Baker Lake – Community representatives and local residents of Baker Lake raised concerns with the potential deterioration of the caribou herd, and whether operations would be stopped when caribou are migrating. They said that the road to the Meadowbank mine was already affecting the caribou herd and that much would depend on how the road to Kiggavik is built [“*certain herds are moving away*”, “*the migration of the caribou has already been affected by another mine*”]. Several community members raised the issue of use of the access road by local residents. They asked about long-term radiation risks from tailings, and whether uranium miners in Saskatchewan were ever over-exposed. Questions were posed to AREVA about what would be barged into Baker Lake and what would be stored in the community. One Baker Lake resident said that youth training is absolutely essential. Another said that many jobs require skills, and job descriptions need to be available to the public so that people could see what skills they need to acquire. One community member said that we should be encouraging educated kids to take high-paying jobs. Another asked why all of the jobs require proficiency in English. Residents asked whether yellowcake would be stored in Baker Lake for shipment, and whether it would only be used for peaceful purposes. Several residents raised the lack of a bank in the community as a significant problem. A Baker Lake community member said that there had been a presentation by a physician last winter, who told them that there would be a serious health issue with the mine. He said that he was opposed in principle to the project. Another community member said that the people should be able to vote on uranium mining in Nunavut. She said that the uranium will always be there, and that “*maybe we need to wait 200 years*” for a uranium mine. A Baker Lake resident suggested that there be an independent community environmental monitor.

Arviat – Community representatives from Arviat raised concerns with contingency plans in the event of accidents or malfunctions, and asked AREVA to provide further explanation on the potential radiation doses to workers, cancer risk, dust control and how technologies have improved to protect the environment and people. A community representative also raised the concern regarding decommissioning of the site after closure and to ensure the site is properly cleaned. [“*Don’t want to experience or see what happened at Rankin Inlet mine, they did not do any cleanup and just left everything behind*”]. There was concern that AREVA’s plans for priority hiring of Kivalliq

residents need to also include plans for retaining Inuit workers, who “*may become discouraged and won’t return to the mine site to work*”. A representative from Arviat said that she wanted to see more job opportunities for residents, especially youth. She said that they cannot forget their culture, but the mine is a good opportunity for everyone, yet need to realize that “*there are dangers to this type of mining*”. One representative also requested further clarification from KivIA on their perspective of the proposed uranium mine.

Chesterfield Inlet – Community representatives from Chesterfield Inlet raised concerns with the impacts of increased boat and barge traffic to marine mammals, and the need to monitor the marine environment and for Inuit monitors onboard the ships. It was stated that marine traffic is already impacting the marine mammal population near Chesterfield Inlet and that mine-related marine traffic will only worsen the situation. One representative said that he knows that marine mammals and the ocean will be affected [*“Marine mammals are going to be impacted in the vicinity of our community”*]. Another said that there is a pretty strong current at some points, and that he is concerned about spills in the Narrows. A Chesterfield Inlet representative expressed concern about the impacts of tailings on fish. One community representative asked about the height of the bridges and roads and how it would affect caribou migration. Another representative asked about uses of the restored Cluff Lake mine in Saskatchewan, specifically whether houses had ever been built there. One representative suggested to AREVA that the training of mine workers should start as soon as possible. He said that many people in his community have Grade 12, but there are no jobs, and would like AREVA to consider Chesterfield Inlet as a priority hire community in addition to Baker Lake. Another representative wanted to know how AREVA will handle bereavement leave. One community representative stated that some community members in Chesterfield Inlet are not in favour of the project.

Coral Harbour – Community representatives from Coral Harbour asked whether there would be any impacts to their community and whether compensation would be provided. They raised concerns with the disturbance of critical caribou habitat and asked whether there were any plans to compensate residents for loss of caribou. One community representative asked about AREVA’s track record restoring mine sites in Saskatchewan and stressed that the plans clearly indicate how the mine would be “*returned back to the original state*”. A community representative asked about the uses of uranium, whether the Kiggavik uranium was stronger or weaker than uranium mined in Saskatchewan and whether it is used to make medical isotopes. Another expressed concern about radioactive dust making its way up the food chain. One Coral Harbour representative talked about the need to consider future generations, who will be better educated and have higher expectations [*“Can’t live of the land forever and need to think about our future generations”*].

Rankin Inlet – Community representatives from Rankin Inlet asked about the monitoring programs and reporting of worker radiation doses. They asked about training priorities and whether worker training would be sufficient to allow workers to ply their trades after the mine closes. [*“What level of training is AREVA planning on giving to the 300 or so Nunavummiut so that they can further their training in other parts of the country or even*

other parts of the world?”] AREVA was asked what steps it will take to meet its preferential hiring target. AREVA was also asked how workplace conflicts would be monitored and dealt with. One community representative raised the issue of protection for the marine environment and asked how AREVA will handle 31 barges over an 8 to 12 week open water season [*“What regulations do you need to follow to protect wildlife within the waters?”*]. Another community representative asked that marine mammals be monitored as they had seen affects from shipping activities. [*“Decrease of marine mammals, specifically harp seals in the Hudson Bay area with the increase of shipping”*]. The community representative raised concerns regarding radioactive dust and dust controls. Another community representative asked about AREVA’s proposed use of lakes, specifically how much water would be taken per day. One representative asked about wildlife monitoring, and whether it would be outsourced or would be conducted by AREVA. One representative expressed concern that Elders should be consulted for their [traditional] knowledge on wildlife. One Rankin Inlet representative questioned TC on whether there are plans to increase monitors to ensure all shipping regulations are followed.

Repulse Bay – Community representatives from Repulse Bay asked whether yellowcake would be transported by ship. They asked whether AREVA would be using quieter ships than those currently used due to sensitive sea mammals, whether AREVA has sufficient bathymetry data and whether sonars have been used. They want to see benefits to their community, particularly jobs and training. One community representative said that he had a hard time believing that AREVA could achieve a 50% Inuit hiring target. [*“Only if you have the qualification and certification will you be employed by the company”*]. Another suggested that a 50% target may look good on paper, but maybe 25% is more realistic. Repulse Bay representatives wanted to know about the dangers of radon gas, as well as the health of miners at uranium mines in Saskatchewan. One representative said that the local community would like to be informed about wildlife sightings and that muskox should be added to AREVA’s wildlife studies. Another expressed concern about radioactive dust and proper protection of wildlife including insects. Another representative raised concerns regarding flight altitudes of helicopters and the disturbance to caribou. One community representative asked about staff turnover and how AREVA will ensure it follows through with the commitments made. [*“How will the company ensure that the things that are being said or promised will be done if there are staff turnover”*]. One representative directed a question to the NIRB asking whether the mining companies are being watched regarding contaminated sites and how these sites are managed. One community representative asked the Baker Lake HTO for additional information on whether the caribou migrate in the area and what the HTO thinks about the proposed tailings pond.

Whale Cove – Community representatives from Whale Cove noted support for mineral exploration and mining if local residents were hired as a result. They said that Inuit want a chance at getting the top paying jobs. [*“Want to see Inuit in more managerial positions”*]. They asked about impacts on fish from the partial dewatering of a lake and the dispersion of dust and radon gas with the wind onto the land and water. [*“Are you going to remove the fish for dewatering...and what will you be doing with them?”*]. They expressed concern with barges getting stuck on sandbars. One representative raised

concerns regarding disturbance to caribou from helicopters. A Whale Cove representative urged AREVA to make safety a foremost priority and to protect the wildlife.

2.16 AREVA Resources Canada Inc.

In its *Responses to DEIS Technical Comments*, AREVA made 177 commitments to the NIRB regarding the development of the FEIS. AREVA also made an additional 38 commitments for the post-EA period (see [Appendix 1](#)). The NIRB assumes that AREVA's post-EA commitments will be incorporated into the FEIS. At the Technical Meeting, AREVA made an additional 94 commitments (see [Appendix 2](#)). At the Community Roundtable and PHC, AREVA advised that it had made 3 additional commitments (inserted at the end of [Appendix 2](#) for ease of reference). AREVA also directly addressed the many questions posed by community representatives and local residents at the Community Roundtable. Many of AREVA's responses and commitments reflect the inherent uncertainties in a project of the magnitude being proposed of Kiggavik. As a result, AREVA relies significantly on commitments to comply with applicable laws, adopt best practices and engage in adaptive management strategies.

2.17 Submissions on Procedural Issues

Prior to the close of the PHC, parties were given an opportunity to provide their input into the following seven issues:

1. Anticipated date for submission of the Final Environmental Impact Statement.
2. Date, time and location of the Final Hearing.
3. Timetable for the exchange of documents and information requests prior to the hearing.
4. Formulation of issues for the hearing.
5. Procedures to be followed in the hearing.
6. Equipment, language, interpretation, translation and transcript requirements.
7. Other matters that may aid in the simplification of the hearing.

AREVA advised the Board that it anticipates filing the Kiggavik FEIS by September 30, 2014, or approximately 15 months after the issuance of this PHC Decision. AREVA advised that it anticipates that the Final Hearing would be held in Baker Lake in 2015. AREVA also advised the Board that it would prefer to adopt the NIRB's Rules of Procedure (effective September 3, 2009) to the proceedings for the Final Hearing for the Project.

NTI submitted that the timing of the hearing should accommodate the community.

The KivIA submitted that the Final Hearing should be in Baker Lake. The KivIA also submitted that the Board should allow a minimum of 80 days for the review of the FEIS once it is submitted, or 20 days more than is contemplated by the NIRB's Rules of Procedure.

The Mayor of Baker Lake said that the months of May and June are the wrong times to hold meetings, including a Final Hearing.

The GN submitted that the dates presented by AREVA for the submission of the FEIS seem to be reasonable and that the Final Hearing should take place in the communities most affected by the Project.

AANDC stated that it had no preference on the date of the Final Hearing, but requires adequate time to review the FEIS prior to the hearing. Should the Board provide for information requests on the FEIS, AANDC submitted that there should be no overlap with the technical review period. AANDC also submitted that it would prefer to be provided with AREVA's written responses to any technical comments before the start of the hearing.

3.0 NUNAVUT IMPACT REVIEW BOARD ANALYSIS AND DECISION

3.1 Jurisdiction of the Board

The NIRB conducted the PHC under the authority of Article 12, Part 5 of the NLCA.² The purpose of the PHC was to inform the NIRB's deliberations on directions to AREVA regarding the preparation of the FEIS, to hear from AREVA about the anticipated date of submission of the FEIS, and to hear from all of the parties regarding procedural issues in order to promote the efficient use of time at the Final Hearing.

The Board acknowledges the comments made by some community members about the provisions of the KRLUP that prohibit uranium development pending a review of all issues, and require approval by the people of the region for any future proposal to mine uranium. The Board notes that it received a positive conformity determination from the NPC for the Kiggavik Project in 2009, which stated that those requirements had been met.³

3.2 Final Environmental Impact Statement

3.2.1 Preparation of the Final Environmental Impact Statement

The NIRB believes that, in preparing the FEIS, AREVA is in a position to address the technical issues raised by parties after their review of the DEIS by:

- a. Complying with the specific direction and implied intention of the EIS Guidelines;
- b. Fully meeting its commitments as set out in [Appendices 1 and 2](#) of this Decision; and
- c. Complying with the Board's additional requirements as set out below.

The Board accepts the Commitment Lists as set out in [Appendices 1 and 2](#), as amended by the Board's requirements set out below, and notes that their fulfilment is a key part of the FEIS requirements. In preparing its FEIS for this Review, the Board encourages AREVA to continue to work with parties to address the issues identified at the Community Roundtable and at the PHC.

The Board also believes that the commitments set out in [Appendices 1 and 2](#) will assist in addressing many of the questions and concerns raised by community representatives and Baker Lake residents at the Community Roundtable. For example, AREVA made a number of commitments to more thoroughly incorporate IQ into the assessment⁴ and, as a result, improvements to the assessment of potential impacts to caribou may be expected in the FEIS. AREVA has made a number of commitments that will result in more information about potential

² Section 12.5.3 states "*NIRB may conduct its review by means of correspondence, public hearings or such other procedures as it deems appropriate to the nature of the project and the range of impacts.*"

³ <http://ftp.nirb.ca/02-REVIEWS/ACTIVE%20REVIEWS/09MN003-AREVA%20KIGGAVIK/1-SCREENING/01-APPLICATION/NPC/>.

⁴ See AREVA Commitments #3E and #3F and AREVA's Technical meeting Commitment #76.

impacts to marine mammals,⁵ which may help to address concerns raised by community representatives from Chesterfield Inlet and other communities. AREVA has also committed to provide a summary of training programs at its Saskatchewan operations, and a discussion of how these can be implemented in the context of its proposed Nunavut operations.⁶ The Board expects that, in fulfilling its commitments, AREVA will take into consideration the issues highlighted at the Community Roundtable.

The Board appreciates the level of investment required in a resource development project of the magnitude of Kiggavik, and understands that many internal and external factors will influence the decision to proceed, as well as the timing of the Project. The Board trusts that AREVA is aware that its decisions will affect the lives of many Nunavummiut over the coming years, particularly youth in the Kivalliq communities, and encourages AREVA to be as clear and transparent as possible in the FEIS about the development strategy and the trigger(s) for making the decision to proceed with the Kiggavik Project.

The Board notes that reliance on “best practices” to mitigate effects may not in some circumstances be acceptable or sufficient. The Board requests that AREVA carefully review its use of best practices as a mitigation measure in the FEIS.

The Board is also concerned with the extent to which many of the commitments have been deferred to the post-EA or licensing period. In light of the time available before submission of the FEIS, and the fact that there is a potential for licensing gaps to be created as a result of legislative change, the Board has concluded that it is reasonable to require AREVA to address some of those commitments in the FEIS.

Based on the submissions of the parties and the NIRB’s consultation with potentially affected communities, in addition to AREVA’s commitments as set out in [Appendices 1 and 2](#), the Board requires AREVA to address the following within the FEIS:

- 1) Baseline Data – Given the significant lapse of time between submission of the DEIS and the expected submission of the FEIS, as well as the time available before September 30, 2014, data should be updated as appropriate and necessary within the FEIS submission. Any newly acquired baseline data incorporated into the Project effects assessment since submission of the DEIS should be appropriately identified. In addition to AREVA’s specific commitments to update information, the FEIS must include:
 - a. Collection and analysis of the baseline information contemplated in [Appendix 1](#) commitments #2ii, #2iv, #2vi, #2ix, #5iii, #5v, #5vi, #6i, #6ii and #6iii, as well as [Appendix 2](#), commitments #5 and #8;
 - b. Collection and analysis of additional aquatic baseline data (including water quality, sediment quality and aquatic organisms) in the Northwest and East Basins of the Judge Sissons Lake where the effluent diffusers are proposed to be located,

⁵ See for example AREVA Commitment # 7C and AREVA’s Technical Meeting Commitment # 65.

⁶ See AREVA’s Technical Meeting Commitment #83.

as per [Appendix 2](#) commitment #39. Further, aquatic sampling locations within Judge Sissons Lake should be re-evaluated. Specifically, consideration should be given to include sampling stations downstream of the effluent discharge points and one at the outflow of Judge Sissons Lake;

- c. Collection of additional baseline surveys for waterfowl, shorebirds and their prey at Judge Sissons Lake and fresh waterbodies directly connected to the lake;
 - d. Collection and performance of additional baseline and monitoring work for wide-ranging predators, including grizzly bear, wolf and wolverine;
 - e. Use of the most recent IPCC (Intergovernmental Panel on Climate Change) climate change data in the environmental assessment; and
 - f. Update the socio-economic impact assessment to include the recent announcements made by Agnico-Eagle Mines Inc. to shut down the Meadowbank Mine site earlier than originally planned.
- 2) Regulatory Framework (AREVA Commitment #1A) – In addition to the commitment provided, update the DEIS Volume 2, Section 2.3 *Policy and Regulatory Framework* to include the most current information and guidance from DFO and NRCan on the application of the *Fisheries Act* and the *Navigable Waters Protection Act* to the Project. If it appears likely that any approvals or authorizations will no longer be legally required, address in the FEIS how any expected licence requirements will be addressed in the development of the Project.
- 3) AREVA Commitment #2Q – Provide a draft mitigation plan in the FEIS, rather than a “general description of mitigation measures”.
- 4) AREVA Commitment #2viii – Provide a draft plan for monitoring for leaks/spills of sewage and spill clean-up in the FEIS.
- 5) AREVA Commitment #2ix – Provide preliminary design and operational information on leak detection system in the FEIS.
- 6) AREVA Commitment #2xi – Provide a draft groundwater monitoring plan in the FEIS.
- 7) AREVA Commitment #2xv – Provide a conceptual decommissioning plan in the FEIS.
- 8) AREVA Commitment #5vi – Provide details on the contents of a draft hydrogeology follow-up program in the FEIS.
- 9) AREVA Commitment #6L and AREVA Technical Meeting Commitment #57 – In addition to these commitments, improve the effects assessments for wolf, grizzly bear and wolverine to ensure that they are supported by the available data.
- 10) AREVA Commitment #8O – In addition to including the new table, provide information on how the exposure for a given pathway was determined to be “minimal impact” in Table HC 2-1.

- 11) AREVA Commitment #8X – In addition to making efforts to obtain the lowest method detection limit for cadmium, include additional information and analysis to support a conclusion that there will be no adverse effects from cadmium in wastewater.
- 12) Access Road (AREVA Technical Meeting Commitment #1) – In the DEIS, AREVA evaluated a number of access road options. AREVA's three preferred alternatives are depicted in [Figure 1](#). AREVA has clearly stated that its preferred alternative is the South Winter Road. However, AREVA is also seeking approval for the North All-Season Access Road, as well as the North Winter Road. At the PHC, AREVA stated that it intends to start operations with the South Winter Road, and only construct the North All-Season Access Road in the event that a winter road cannot adequately support the Project over its lifespan. The Board notes the numerous concerns raised by parties with respect to AREVA's current approach to the access road(s). The Board appreciates that AREVA may require operational flexibility, but is hesitant to approve both a winter road and an all-season access road. The Board also does not understand why AREVA would need approval for a second winter road. In addition to AREVA's Technical Meeting Commitment #1, the FEIS must include an updated comparative evaluation of alternative road options that comprehensively assesses each option, as well as any interactions amongst them. AREVA must also deal clearly with the issue of public access to the access road in its FEIS.
- 13) AREVA Technical Meeting Commitment #23 – Provide a Draft Dust Monitoring and Mitigation Plan within the FEIS, rather than just a framework for a plan. The Draft Plan should also address KivIA's submission to discuss the feasibility that the ore and waste rock storage areas should be covered or managed to prevent wind dispersion of dust contaminants.
- 14) AREVA Technical Meeting Commitment #54 – Provide a draft monitoring and mitigation plan in the FEIS for waterfowl and waterbirds, rather than just a framework for a plan.
- 15) AREVA Technical Meeting Commitment #55 – Provide a Draft Wildlife Mitigation and Monitoring Plan in the FEIS, rather than just a framework for a plan. Incorporate into the Draft Plan renewed advice from the GN on the issue of the use of a '50 caribou threshold' for suspension of activities.
- 16) AREVA Technical Meeting Commitment #85 – In addition to reviewing and revising the description of the housing situation in Baker Lake and Rankin Inlet, include in the FEIS a description of the housing situation in Arviat.
- 17) Address in the FEIS the Kivalliq communities' concerns with increased marine traffic associated with the project, specifically related to marine safety, the need for depth charts and depth finders on ships and barges, and noise and disturbance of marine mammals.
- 18) Undertake and document in the FEIS a more detailed evaluation of the effluent discharge scenarios to support the selection of Option #1 as the worst-case scenario for impact assessment purposes.

- 19) Provide clarification in Appendix 8A: *Ecological and Human Health Risk Assessment* on whether the mean or 95th percentile values for COPCs in air, water, sediment, soil and vegetation were used in the assessment.
- 20) Include in the FEIS a comprehensive discussion of community-level impacts for the communities of Baker Lake and Chesterfield Inlet for all aspects of the socio-economic environment studied, and extend the discussion to other communities in the Regional Study Area to better support conclusions on community impacts.
- 21) Potential Effects on Caribou – Concerns with the DEIS assessment of the effects of the Kiggavik Project on caribou were raised by the KivIA, the Baker Lake HTO, the GN, the BQCMB, Makita and CARC. In response, AREVA made a large number of FEIS commitments that deal with caribou in some way. Many of AREVA’s commitments respecting IQ and CEA also relate to caribou. In addition to those commitments and the Board’s requirements that may relate to caribou, the Board recommends that the FEIS address the outstanding issues tabled by BQCMB at the PHC summarized in [Section 2.12](#) of this PHC Report.
- 22) Inuit Qaujjimajatuqangit (IQ) – A number of parties raised issues regarding the use of IQ in the DEIS. The Board understands that the Baker Lake HTO will be collecting additional IQ data, which it believes may be a useful addition to the Board’s assessment of the impacts of the Kiggavik Project on caribou. The Board understands the confidentiality concerns raised by the Baker Lake HTO and notes that its Rules of Procedure provides a mechanism to address this issue. Based on the technical comments of the parties, the Board believes that some additional IQ collection is warranted. The Board appreciates that, in [Appendix 1](#) commitments #3E, #3F and #3G and [Appendix 2](#) commitments #75, #76 and #77, AREVA has committed to clarifying its use of IQ in the environmental assessment. In addition, the Board requires AREVA to address the following in the FEIS:
- a. Consider additional IQ data collected by AREVA and/or the Baker Lake HTO in its proposed IQ study, in order to augment and improve the assessment of project effects and cumulative effects on caribou migration;
 - b. Consider Aboriginal Traditional Knowledge from other caribou range communities outside of Nunavut to improve the assessment of project effects and cumulative effects on caribou migration;
 - c. Better incorporate and integrate IQ data into project impact assessment and CEA to improve reliability and understanding of the FEIS;
 - d. Clearly delineate between IQ and engagement;
 - e. Clarify how consultation and engagement has informed the FEIS content;
 - f. Consider how IQ information might be weighted versus scientific information; and
 - g. Clearly demonstrate how IQ has been integrated into adaptive mitigation and monitoring plans designed to prevent or reduce project-related effects on the environment.

- 23) Cumulative Effects Assessment – A number of parties raised issues regarding the assessment of cumulative effects in the DEIS. The Board agrees that the assessment of cumulative effects in the FEIS should be improved and enhanced. In addition to the numerous commitments made in [Appendices 1 and 2](#) that relate in some fashion to the CEA, the Board requires AREVA to:
- a. Reconsider cumulative effects starting with all project effects, not only those residual effects that are assessed to be significant;
 - b. Incorporate in quantitative terms the available information on past, present and reasonably foreseeable future mineral exploration activities within the RSA, and derive estimates of individual project footprints (sq. km) and range of effects from project activities such as helicopter usage and aeromagnetic surveys on valued ecosystem components. Consideration for the potential cumulative effect of habitat fragmentation from regional activities to caribou populations should also be demonstrated; and
 - c. Clearly identify those elements of the Project that may be overbuilt to accommodate future developments.
- 24) Provide a more comprehensive analysis of labour force projections, using the most recent labour market analysis, which includes a clear delineation of project development phases and anticipated Inuit employment levels at each phase of the project, the required efficacy of training programs and estimated turnover rates. Present the analysis in terms of AREVA's plan to meet a 50% Inuit hiring target.
- 25) Recognizing that the IIBA cannot be finalized until the conclusion of the NIRB's process, AREVA should provide in the FEIS an update of all relevant non-confidential information pertaining to the draft IIBA.

3.2.2 Anticipated date for submission of the Final Environmental Impact Statement

AREVA informed the NIRB that it will file the FEIS by September 30, 2014. The Board understands that the FEIS will be a fully revised and a stand-alone EIS document, not an addendum to the DEIS.

AREVA indicated that the matters set out in the commitments listed in [Appendices 1 and 2](#) will be addressed within the FEIS. The Board notes that AREVA is responsible for ensuring that, in satisfying its commitments in the FEIS, it addresses the issues raised in the technical review of the DEIS that were the basis for the commitments.

The Board notes that, in accordance with Section 4.2 of the EIS Guidelines, the FEIS must contain a concordance table directing reviewers to the location where specific information addressing the Guidelines may be found in the FEIS. The Board requests that AREVA also provide a concordance table directing reviewers to the location where specific information addressing the commitments listed in [Appendices 1 and 2](#), as well as the Board's requirements as set out above, may be found in the FEIS.

3.3 Procedures Following Submission of the Final Environmental Impact Statement

Once filed, the FEIS will be subject to a minimum 80 day technical review period. Within 15 days of filing, the NIRB will undertake a review for compliance with the EIS Guidelines and this PHC Report. As requested by KivIA, the parties will then be provided with a minimum of 80 days to submit final written submissions on the FEIS. The NIRB at this time does not anticipate soliciting Information Requests (IRs) as part of the technical review of the FEIS. AREVA will be provided with a minimum of 30 days to respond to the parties' final written submissions. As requested by AANDC, the Final Hearing will be scheduled to commence no sooner than 7 days following the date on which AREVA's responses are due. The NIRB reserves the right to extend the technical review period if the Board finds that additional time is necessary to deal with issues arising from the FEIS (see [Figure 2](#) for a process map).

The NIRB reserves the right to schedule another meeting of technical experts (i.e., a technical meeting) and/or another PHC prior to the Final Hearing.

3.3.1 Location of the Final Hearing

The NIRB notes the submissions from KivIA and the Hamlet of Baker Lake that the Final Hearing should be held in Baker Lake, and the submission from the GN that the Final Hearing should be close to the affected communities. The Board has decided that the venue for the Final Hearing will be the community of Baker Lake. The Board is committed to taking steps to ensure that representatives from the communities of Arviat, Chesterfield Inlet, Coral Harbour, Rankin Inlet, Repulse Bay and Whale Cove are brought to the venue in order to participate in the Final Hearing.

3.3.2 Timing of the Final Hearing

The Board acknowledges that submission of the FEIS on September 30, 2014 necessarily implies that the Final Hearing can be held no earlier than 2015. At this time, the Board is not in a position to schedule the date of the Final Hearing as it is highly dependent on the actual date of the filing and acceptance of a complete FEIS submission. The Final Hearing date will be scheduled following the NIRB's compliance review and acceptance of the FEIS and upon initiation of the technical review period. At that time the Board will also consider the scheduling of the Final Hearing in coordination with its other ongoing assessments.

The Board acknowledges the submissions from NTI regarding the need for timing to accommodate the community, and from the Hamlet of Baker Lake that the months of May and June are the wrong times to hold meetings. The Board understands that a late spring or early summer date for the Final Hearing may make it more challenging to ensure full and active participation by potentially affected communities, as many community members may be engaged

in traditional activities during this time. When determining the Final Hearing date the Board will take into consideration Section 12.2.27 of the NLCA⁷.

3.3.3 Formulation of issues for the Final Hearing

During the technical review of the FEIS, the Board will define the issues for the Final Hearing. Parties will be advised of the issues in the context of further procedural directions.

3.3.4 Procedures to follow for the Final Hearing

The Board acknowledges AREVA's consent to adopt the Board's Rules of Procedure which came into effect after the Kiggavik Project Proposal was filed with the NIRB in 2008.

Subject to further procedural directions, the Final Hearing will proceed generally in accordance with the NIRB Rules of Procedure, dated September 3, 2009. The Board has decided to vary Rule 18.2 to require notice of a meeting of technical experts, should one be required, to the Proponent and project distribution list at least 30 days before the technical meeting.⁸ The Board has decided to vary Rule 20.1(b) to require notice of another PHC, should one be scheduled, to the Proponent and project distribution list at least 30 days before the PHC.⁹

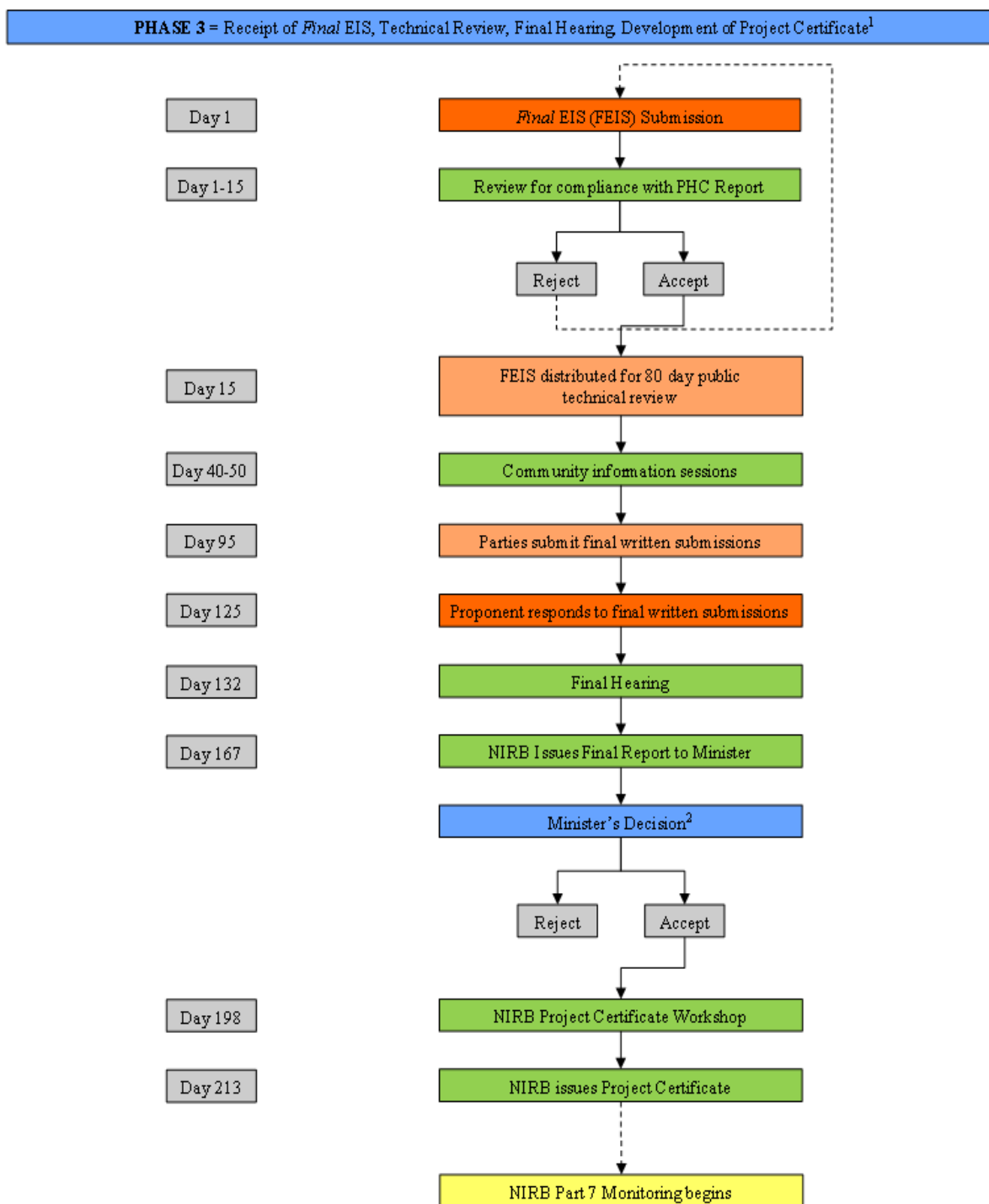
Formal technical presentations will be scheduled to take place first during the Final Hearing and will be organized by subject. Informal community roundtable sessions will be held during the Final Hearing, following the technical presentations. All parties are required to ensure sufficient technical expertise is available for the community roundtable portions of the Final Hearing.

⁷ Section 12.2.27 states “*All necessary steps shall be taken by way of notice, dissemination of information, and scheduling and location of hearings to provide and promote public awareness of and participation at hearings.*”

⁸The notice period is set out in the Rules as 60 days.

⁹The notice period is set out in the Rules as 60 days.

Figure 2: Process Map and Anticipated Timeline for NIRB's Review of AREVA's Kiggavik Project



Notes: 1 = Timelines may change based on project-specific circumstances and subject to the NIRB's discretion.

2 = The timeline for the Minister's Decision is independent of the NIRB.

3.3.5 Equipment, language, interpretation, translation and transcript requirements

No submissions were made by parties regarding equipment, language, interpretation, translation and transcript requirements. The Board will establish these requirements closer to the Final Hearing date.

3.3.6 Other matters that may promote an effective Final Hearing

In light of the expected passage of time between the PHC and the Final Hearing, and to mitigate a potential loss of momentum in the EA process, the Board requests that AREVA hold additional community information sessions in all potentially affected communities prior to the Final Hearing.

The Board encourages each government reviewer involved in the NIRB's process to date to ensure that corporate knowledge is appropriately transitioned in the event that a different reviewer is assigned to the review of the FEIS.

The Board urges the GN and AREVA to finalize a wildlife data sharing agreement as soon as possible.

The Board appreciates the continued assistance of the Inuit Uqausinginnik Taiguusiliuqtiit with appropriate translation assistance, especially in regard to technical terms.

The Board encourages AREVA and the GN to meet with the Hamlet councils and social service providers in potentially affected communities to discuss the socio-economic impact assessment and related mitigation and monitoring plans prior to the Final Hearing. The Board also encourages AREVA and the GN to engage the Council of the Hamlet of Baker Lake on infrastructure and servicing issues associated with the project. The Board also encourages KivIA to engage the Council of the Hamlet of Baker Lake to discuss the process and progress on negotiating the IIBA.

The Board encourages the CNSC to continue to liaise with other licensing authorities on the Kiggavik project, including the NWB, AANDC, DFO and NRCAN, and encourages further public information sessions to address the continuing need for public education on matters related to the nuclear fuel cycle.

A number of parties received participant funding to participate in the Final Hearing. Each funded party entered into a Contribution Agreement with AANDC to enable participation at key points in the NIRB's review, including provision of technical review comments, and is accountable for public funds received. The Board appreciates that the extended review timeline may have made it difficult for those awarded funding to participate in each stage as originally planned, but trusts that parties recognize the importance of participating in the Final Hearing.

Finally, the Board urges all parties to maximize their efforts to collaborate with other parties during the remainder of the NIRB process.

4.0 CONCLUSIONS OF THE BOARD

The Board facilitated a PHC in Baker Lake on June 5th and 6th, 2013 to hear from the parties on outstanding issues with the DEIS for the Kiggavik Project prepared by AREVA, and about hearing logistics and procedures. Prior to the PHC, AREVA made a large number of commitments to the Board regarding the preparation of the FEIS. The Board has accepted those commitments and, after considering the submissions from the parties, has imposed an additional 25 requirements on AREVA regarding preparation of the FEIS.

AREVA advised the Board that it plans to submit its FEIS for the Kiggavik Project by September 30, 2014. Once submitted, the FEIS will be subject to a technical review period, including an 80 day period for parties to submit final written submissions and a 30 day period for AREVA to respond. The Final Hearing will be scheduled to commence no sooner than 7 days following AREVA's responses. The Final Hearing will be held in Baker Lake, likely in 2015. The Board made a series of recommendations to promote an effective Final Hearing, including requests for additional community information sessions. The Board will issue further procedural directions for the Final Hearing during the technical review period.

Signed this 5th day of July, 2013.



Elizabeth Copland
Chairperson
Nunavut Impact Review Board

Appendix 1: AREVA's Commitments based on Technical Review Comments [May 8, 2013]

FEIS Commitments:

Introduction; EA Methodology and Presentation:

- 1A. Update the DEIS Volume 2 Section 2.3-Policy and Regulatory Framework to include a comprehensive list of relevant regulation and requirements
 - Addition of *Nunavut's Scientist Act* to the list of Applicable Territorial Acts, Regulations, and Guidelines (DEIS Volume 2 Table 2.3-2 (pg. 2-12)) and on-going communication with the GN with respect to research to better ensure licensing requirements are efficiently obtained
 - As outlined in the response to IR KIA32, the Water Compensation Agreement with the KIA will be added to Table 1.8-1 in DEIS Tier 1, Volume 1, Main Document, Section 1.8.3 to be consistent with its inclusion in Table 2.3-3 (found in DEIS Tier 2, Volume 2, Project Description and Assessment Basis, Section 2.3.5)
- 1B. All vessels transiting through and operating in Canadian Arctic waters will comply with *the Arctic Waters Pollution Prevention Act* and the *Canada Shipping Act*.
- 1C. Aerodromes will be constructed to meet Aerodrome standards.
- 1D. AREVA will provide additional information on how it is and will continue to meet the NTI policy principles for sustainable uranium development in Nunavut in DEIS Volume 2 Section 2.3-Policy and Regulatory Framework in the FEIS submission.
- 1E. AREVA will provide a summary of biophysical and socio-economic interactions in the FEIS.
- 1F. A consistent presentation of the determination of significance will be presented across volumes in the FEIS.
- 1G. Add the Thelon Heritage River to the Project Inclusion List as a designated

Project Description:

- 2A. In the FEIS document, AREVA will ensure that all project fact sheets and summary documents include a standard consistent description of the project's anticipated operating life.
- 2B. In the FEIS document, AREVA will clearly state in the main body of the report that a maximum of 1,000,000 tonnes of ore will be stockpiled throughout the mine life. The annual expected stockpile inventory will be clearly stated in the body of the report with the expected environmental effects and mitigation measures in the FEIS.
- 2C. Update the FEIS by adding an appendix to Volume 2 detailing the main conversion factors.
- 2D. Update the FEIS Volume 2 by adding figures (sections) showing the relationship between the project (ramps and drifts) and the bedrock geology (the ore body).

- 2E. AREVA will provide a brief explanation of the use of socio-economic criteria used in alternatives assessment in the FEIS.
- 2F. AREVA will remove the incorrect statement in the Final EIS regarding assumption of hydrostatic to surface in-situ stress at End Grid.
- 2G. AREVA will include the additional geologic information provide during the IR stage in the FEIS.
- 2H. AREVA will include the information regarding the geochemistry of tailings pore waters as described in these technical comments in the FEIS.
- 2I. AREVA will provide the information provided in this technical comment on attrition of resin in the Resin-in-Pulp process in the FEIS.
- 2J. AREVA will discuss the consolidation of tailings and options to decrease the length of time required for consolidation to occur, as requested, during the technical sessions.
- 2K. Update the DEIS Volume 2 Section 14.2.5 - Sewage Treatment to include the effluent criteria in the Wastewater Systems Effluent Regulations SOR/2012-139 Fisheries Act Registration 2012-06/29.
- 2L. Clarify in the Final EIS that sewage generated from the Kiggavik and Sissons sites will not be transported to Baker Lake for disposal
- 2M. Clarify in the Final EIS the definition of batch discharge of sewage, noting that all sewage will be treated prior to discharge to Judge Sissons Lake.
- 2N. Clarify in the Final EIS that there will be temporary storage for sewage in the event that the sewage treatment plant is shut down.
- 2O. Provide a general description on the use of a leak detection sump in the Final EIS.
- 2P. Provide a general description on the use of monitoring wells in the Final EIS.
- 2Q. Provide a general description of mitigation measures in the event of a leak in the Final EIS.
- 2R. For the FEIS, AREVA will revise Tier 3, Technical Appendix 2R, Preliminary Decommissioning Plan, to include:
- list of critical sites/facilities for regular visual inspection, as of the end of the operations phase
 - summary of equipment and protocols used during Cluff Lake decommissioning for detailed gamma radiation surveys (soil testing), to identify any areas requiring remediation
 - list of facilities requiring post closure physical stability monitoring
 - revised table of water quality objectives for release of Andrew Pit water to Andrew Lake
 - revision of preliminary decommissioning plan for the landfarm
- 2S. AREVA will make minor revisions to Tier 1, Volume 1, Main Document, Section 2.7 Decommissioning and Reclamation Activities and to Tier 2, Volume 2, Project Description and Assessment Basis, Section 13, Closure, Decommissioning and Reclamation Activities, to reflect the revisions to the Preliminary Decommissioning Plan.

- 2T. AREVA will ensure that the section(s) on ongoing engagement with community representatives include workshops for in depth discussions of issues/questions related to project environmental impacts. These will include consideration of an environmental monitoring program supported by AREVA, but carried out independently by community representatives.

Engagement and Inuit Qaujimagatuqangit

- 3A. AREVA will continue to invite responsible organizations to AREVA hosted engagement events so they have the opportunity to hear community comments first-hand and AREVA will continue to document community comments for consideration and presentation in the FEIS.
- 3B. The DEIS Sections titled 'Issues and Concerns Identified during Inuit, Government and Stakeholder Engagement' and 'Influence of Inuit and Stakeholder Engagement and IQ on the Assessment' under heading 'Scope of the Assessment' will be updated in the FEIS to include engagement data collected since the submission of the DEIS.
- 3C. AREVA will continue uranium education initiatives and information sharing (e.g. radiation protection demonstrations).
- 3D. In the FEIS, AREVA will provide clarity on how IQ was collected, summarized and integrated throughout the assessment including i) inclusion of Figure 5.1-A and associated discussion in the FEIS and ii) inclusion of an IQ roadmap which expands on information presented in IR Table Makita 1, 2, 3 (New). (TCs-AANDC22, BLHTO05, BLHTO06, BQCMB01, BQCMB02, GN/NRI10, GN/NRI11, KIA003, KIA005, KIA006, KIA007, KIA008, KIA009, KIA010, KIA012, KIA037, KIA060).
- 3E. Overlaying relevant IQ data with discipline maps. FEIS text will be updated to include an accompanying discussion of IQ and scientific data, including any discrepancies. (TC BLHTO 07, TC BLHTO 08, TC BLHTO 09, TC BQCMB 01, BQCMB 02).
- 3F. AREVA will provide a more full discussion on how IQ, traditional harvest and Inuit land use have been considered in significance determination by presenting this information, where relevant, under the significance criteria heading 'Ecological and Social Context' when evaluating the other criteria of Direction, Magnitude, Geographic Extent, Duration, Frequency, Reversibility, Likelihood and Confidence. (TC BLHTO 07, TC BLHTO 08, TC BLHTO 09, TC BQCMB 02).
- 3G. Generating Tier 2, Volume 3, Part 2 IQ maps which show only one concept per map in order to increase readability (TC BLHTO 02, TC BLHTO 03, TC Makita 4)

Atmospheric Environment

- 4A. AREVA will provide additional information in conjunction with the FEIS to allow independent validation of the atmospheric modeling, although it is not anticipated that these files will form part of the formal FEIS submission.
- 4B. AREVA will investigate differences in predictions from other facilities in the FEIS if sufficient information is provided to facilitate this comparison.

- 4C. AREVA will provide additional information on the radon emanation from tailings within the FEIS. This will include consideration of IAEA TRS 333 as well as other information.
- 4D. The lessons learned from the Ekati Diamond Mine dust monitoring program, in conjunction with the methodologies outlined in the CSA Standards N288.4, N288.5, and N288.6 will guide the development of the dust monitoring program.
- 4E. The derived reference limits for radionuclides will be updated and additional information provided on the basis of the calculation.
- 4F. The Final EIS will reflect the reference changes suggested for the noise assessment.

Aquatic Environment

- 5A. AREVA will revise Tier 3, Volume 2, Appendix 2I in the FEIS in order to clarify information in the site water management plan. Updated water balance diagrams for construction, operational and decommissioning phases of the Project will be included.
- 5B. The rationale for selection of the effluent quality data, including RO design recovery rate, and appropriateness of using this data will be more transparently described in the FEIS.
- 5C. AREVA will provide adequate text in the FEIS, Tier 2, Volume 5, Aquatic Environment Section 4.4 Project-Environment Interactions to describe the rationale used to rank the comprehensive list of Project-Environment interactions.
- 5D. Project-environment rankings will be clarified in the FEIS, Tier 2, Volume 5, Aquatic Environment: justification will be provided for interactions of 0, BMPs and mitigation measures will be referenced for category 1 interactions and Category 2 interactions will further assessed.
- 5E. Surface hydrology maps (Tier 2, Volume 5, Figures 6.2-5A and 6.2-5B) will be updated in the FEIS to more clearly show direction of water flow.
- 5F. Figure 8.2-5 Water Quality Predictions will be included in in Volume 5, Section 8.2.1.5 of the FEIS.
- 5G. Sediment quality predictions will be compared to a range of benchmarks in the FEIS.
- 5H. AREVA will continue to consult with DFO on changes to the *Fisheries Act*.
- 5I. FEIS, Tier 2, Volume 5, Aquatic Environment, Section 10 Effects Assessment for Aquatic Organisms and Fish Habitat will be updated to clarify the estimates of Harmful Alteration, Disruption or Destruction of fish habitat.
- 5J. In the FEIS, Volume 5, Section 6 Surface Hydrology and Section 7 Hydrogeology will include interception of groundwater flow by mines that extend in the unfrozen sub-permafrost formation (Main zone open pit, Andrew Lake open pit and End Grid underground mine; DEIS, Volume 5, Technical Appendix 5E) as a potential Project-environment interaction for changes in water quantity.
- 5K. Provide results and assessment of the Type 3 mine rock and tailings for in-pit, underwater storages tests.
- 5L. AREVA will correct the inaccurate text regarding the geothermal heat flux boundary condition at the base of the model. The correct value is 6 kJ/day/m².

Terrestrial Environment

- 6A. The updated ecosystem-based understanding of the Kivalliq region ecological landscape, including caribou herd designations, spatial distributions, important seasonal movement corridors and sensitive habitats, as published in the Atlas (Campbell *et al* 2012) will be incorporated into the FEIS assessment of caribou.
- 6B. To facilitate transparency of the assessment of project effects on caribou movement, the FEIS will overlay project components and the associated Zone of Influence predictions with known water crossings and migratory corridors as identified by both IQ and the *Kivalliq Ecological Land Classification Map Atlas: A Wildlife Perspective* (Campbell et al. 2012).
- 6C. IR-BLHTO12 stated “AREVA anticipates meeting with the HTO during the technical review to discuss the thresholds used in the DEIS including evaluations of significance that reflect Inuit use of caribou.” The BLHTO preference was to meet during the technical meetings rather than during the technical review commenting period. AREVA continues to commit to meeting with the BLHTO to better understand their concerns, and facilitate the integration of Inuit use of caribou into the assessment.
- 6D. AREVA will update the criteria of ‘Ecological and Social Context’ in the determination of significance in the FEIS. The criteria consider feedback received during the AREVA 2012 open house (See IR AANDC15 and Section 3 of this regulatory submission for open house report details). IQ, land use, and traditional harvest will also be presented under the heading ‘Ecological and Social Context’ when determining significance.
- 6E. In addition to the commitment to reassessing migration and movement, AREVA will produce a map indicating all areas where aircraft are likely to fly below 900 m, and all areas where aircraft are likely to fly below 610 m, and include these areas in the determination of Zone of Influence in the assessment.
- 6F. AREVA will incorporate the lessons learned from the Ekati mine into the understanding of the effectiveness of mitigation measures to maximize the porosity of project infrastructure (e.g. roads and pipelines) to caribou.
- 6G. Based on IQ, AREVA will incorporate a “do not disturb the leader” guideline into the suite of mitigation measures to minimize potential effects of the project to caribou movement.
- 6H. AREVA will update the Terrestrial Wildlife CEA boundary and associated Project Inclusion List (PIL) based on updated caribou herd ranges (Campbell et al. 2012). Footprints of projects in the PIL will be included if information is publically available.
- 6I. AREVA will include additional explanation on the cumulative effects screening for caribou movement and health in DEIS Section 13.3.1.
- 6J. The reassessment of project effects to caribou migration using the most recent migration corridor analysis from the Government of Nunavut (Campbell et al. 2012) and existing AREVA-collected IQ on caribou migration and movement will inform the FEIS screening for movement as a potential cumulative environmental effect.

- 6K. The cumulative mortality effects assessment will be presented as a comparison between the winter and all-season road options rather than a conservative assessment of the all-season road as presented in the DEIS.
- 6L. AREVA acknowledges that baseline data collection for wide-ranging, large predators such as grizzly bear and wolverine can be difficult to collect due to the species' low density on the landscape. AREVA has, and will continue to look for opportunities to collaborate with the Government of Nunavut to increase our collective understanding of the distribution of a wide range of wildlife species in the Kivalliq region. Collaborative efforts will look for current and future opportunities to facilitate the collection of information to address the large predator data deficiencies identified in the Atlas.
- 6M. The reference to "harvest quota limitations" as an example of a mitigation measure will be removed from the FEIS submission.
- 6N. AREVA will adopt the methodology presented by EC for determining the ZOI for the Pointer Lake airstrip on migratory birds.
- 6O. Correct the typographical error in the Executive Summary of the DEIS Tier 2, Volume 6, Terrestrial Environment (page xxiii) to summarize the findings of the environmental assessment regarding Project-related effects on migratory birds.
- 6P. AREVA acknowledges the advice provided to meet the requirements of the *Species at Risk Act*.

Marine Environment

- 7A. AREVA will work with the GN to ensure the most recent polar bear data is considered in the FEIS.
- 7B. AREVA commits to adhering to all applicable regulations related to marine shipping, including the *Marine Shipping Act, 2001*. AREVA will include this regulation in the Tier 2, Volume 2, Project Description and Assessment Basis, section 2.3 Policy and Regulatory Framework in the FEIS submission and relevant Tier 3 management plans.
- 7C. AREVA will include text in the FEIS noting the maintenance of the maximum safe distance from shorelines during shipping so that acoustic disturbance is minimized between Southampton Island and Coats Island where sensitive habitat areas are identified.

Human Health

- 8A. The worker radiation exposure assessment will be updated in the final EIS to improve clarity on the calculations of worker doses. Example calculations will be provided to further illustrate how scaling factors were used to estimate doses at Kiggavik (CNSC 39).
- 8B. Example Microshield outputs will be provided to support the estimation of worker doses from yellowcake during transport (CNSC IR46, CNSC 11). Radiation dose assessment will be conducted for workers during accidents and malfunctions (CNSC 57).
- 8C. Radon exposure calculations and corrections to underground radon calculations will be included in the FEIS (CNSC IR 39).

- 8D. The Occupational Health and Safety Plan (Appendix 2P) will be updated to improve the prominence of health and the consideration of psychological factors in the FEIS. Similarly, the Emergency Response Plan (Appendix 10C) will be updated to consider illness.
- 8E. Clarifications regarding groundshine air kerma rates will be included in the FEIS.
- 8F. Radon monitoring will be conducted during construction.
- 8G. AREVA will incorporate the dose constraint of 0.3 mSv/y into the decommissioning objectives to ensure the public dose limit is not exceeded.
- 8H. AREVA commits to using the CCOHS hazard definition in Vol 8, Tier 2, Human Health, glossary section in the FEIS.
- 8I. AREVA commits to identifying the mucocilliary escalation route within the discussion of ingestion.
- 8J. AREVA commits to completing table in Vol 2, Tier 2, Human Health, Table 5.4-6 in the FEIS.
- 8K. AREVA commits to updating the list of potential COPCs to include includes nickel, manganese, vanadium and PM 10 and PM 2.5, and evaluate congruently.
- 8L. AREVA commits to using the TLV PM 10 and PM 2.5 for dust particulates, as recommended by ACGIH guideline limit value.
- 8M. AREVA will review the sulphur ranking in table 5.4-6 to ensure it is consistent. AREVA commits to ensuring the proper monitoring equipment and emergency response equipment will be available for safe handling and storage of sulphur. The discussion of sulphur will include an assessment of potential generation of hydrogen sulphide in the FEIS.
- 8N. AREVA will provide further clarity on the conclusions regarding potential personnel exposure to NO₂ and dust as well as describe mitigative measures to control for potential personnel exposure to NO₂ and dust at the camp complex during blasting operation in Vol 8, Tier 2, Human Health Section 7.3.1.5 in the FEIS.
- 8O. AREVA commits to including the new table which addresses dermal exposures within Tier 2, Volume 8, Human Health, in the FEIS.
- 8P. The editorial errors with relation to the units will be corrected in the FEIS.
- 8Q. Clarification of the water and sediment quality guidelines used in Section 6 of Appendix 8A of the assessment. This discussion will include reference to additional sediment quality guidelines that are available.
- 8R. The radionuclides will be expanded in Table 7.2-2, Volume 5, and drinking water standards for radionuclides will be included where applicable in Volume 8 and Volume 8A.
- 8S. Inconsistencies in the use of the CWQG for cadmium will be corrected in the FEIS.
- 8T. Clarification of the selection of the TRV for uranium for mammals will be provided in the FEIS.
- 8U. An explanation of the exclusion of thorium series radionuclides can be provided in the FEIS.

- 8V. AREVA will provide additional information on the water and sediment quality modelling in the FEIS.
- 8W. An assessment of temperature effects will be provided in the FEIS.
- 8X. In future monitoring campaigns AREVA will make every effort to obtain the lowest detection limit for cadmium.
- 8Y. The aquatic receptors selected for the assessment will be consistent between the assessment of non-radionuclides and radioactivity.
- 8Z. In response to Environment Canada's technical comments, additional information on the ecological dose calculations, as well as a sample calculation for ecological dose, will be incorporated into the FEIS.
- 8AA. Additional information will be included in the FEIS that discusses the receptor characteristics used in the assessment.
- 8BB. The units in Table B.4-1 Appendix 8A will be corrected.
- 8CC. AREVA will provide routine reporting of environmental performance and periodically update ERA and HHRA in accordance with established standards

Socio-Economic Environment

- 9A. Revise Volume 9 Part 1 Sections 4, 8, 9, 10, 11, 12 and 13 to include new detail on socio-economic cumulative effects as provided in IR responses.
- 9B. Review and revision of summaries in Volume 1 Section 8.7 and Volume 9 Section 14.2 to reflect the new detail and to restate AREVA's commitment to collaborative monitoring as a means to address cumulative socio-economic effects.
- 9C. Include cumulative socio-economic effects in Appendix 1F.
- 9D. Review the DEIS with a view to inserting more discussion and more clarity on premature (temporary or permanent) closure, including not only in Sections 6.3.9, 8.1.8 and 8.1.9 but also in other sections discussing Project effects (throughout Sections 8 to 14).
- 9E. Elaborate the approach to premature closure planning in Section 6.3.9.
- 9F. Prepare the FEIS with a view to including available additional detail on socio-economic mitigation and benefit enhancement.
- 9G. Review the final versions of the terrestrial and marine assessments, and incorporate any change in results into the socio-economic assessment.
- 9H. Update the conclusions of the assessment of Project effects on migration and consequent effects on infrastructure and services to reflect recent population data and increased uncertainty in the mining sector.
- 9I. AREVA will discuss with DoJ and DoF, as well as with other interested GN departments, mechanisms to maintain open dialogue on subjects of mutual interest.
- 9J. Review and revise the description of the housing situation in Baker Lake, the expected impacts of the Project on housing and proposed mitigation in response during preparation of the FEIS.

- 9K. Update and refine the labour force projections in Section 13.2 of the FEIS.
- 9L. Integrate text from DEIS Addendum Section 9.5 into the FEIS.
- 9M. Add the Thelon River as a CHRS heritage river to the Cumulative Effects Project Inclusion List as a designated area.
- 9N. Add a section to FEIS, Volume 9, Part 1 which compiles relevant information from socio-economic, heritage resources, aquatic and terrestrial assessments in order to summarize how the Thelon River Canadian Heritage Rivers System designation has been considered and the CHRS Management Plan for the Thelon River (Economic Development and Tourism, GNWT 1990) has been followed.

Accidents and Malfunctions

- 10A. Doses to workers resulting from accidents during transport can be included in the FEIS (CNSC 13, 57).
- 10B. Additional detail can be provided to describe the calculation of human doses resulting from ingestion of large lake water in the FEIS (CNSC 59).
- 10C. Response strategies for wildlife interactions during a spill event will be discussed within appropriate Management Plan documents in the Final EIS.

Post EA Commitments:

Introduction; EA Methodology and Presentation:

- 1i. Fulfill requirements under the *Navigable Waters Protection Act*
 - Provide a list/table identifying which waterways meet the criteria established by the Minor Works and Waters (NWPA) Order and those that do not
 - Provide an application for approval under the NWPA for any waterways that do not meet the Minor Works and Waters (NWPA) Order
 - Provide an application for approval under the NWPA for works that do not meet the established criteria in the Minor Works, Water Intakes pamphlet and the Minor Works, Temporary Works pamphlet
 - AREVA will continue to abide by the conditions outlined in the Transport Canada Minor Works and Waters (NWPA) Order for winter crossings.
 - AREVA will consult with TC NWPP in order to determine the steps involved and information required to apply for a Proclamation of exemption by the Governor in Council under section 23.
- 1ii. AREVA will submit an Integrated Management System for consideration as part of the licensing and permitting applications provided to the regulatory agencies.

Project Description:

- 2i. Assess the condition for water depressurization for the End Grid deposit.
- 2ii. Conduct detailed geotechnical work to support the route selection and design prior to commencement of the project.

- 2iii. AREVA will undertake characterization of faults during pit and underground excavation to better characterized the relationship between the faults and the mines.
- 2iv. AREVA will collect site-specific geotechnical information for the detailed design and construction of site facilities prior to licencing of the facilities. This will include geotechnical properties, terrain sensitivity, and permafrost conditions of the site soils. This information will support the final design and construction of the site and access roads, the water management ponds and channels, final open pit designs, ore and mineralized waste rock pads, and mine infrastructure in general.
- 2v. AREVA will conduct climate monitoring and monitoring of ground thermal conditions during operations.
- 2vi. Geotechnical investigations and detailed design of the Andrew Lake Pit Dewatering Structure will be completed prior to licencing and construction of the structure. Included in the investigation and design will be the geotechnical stability, seepage analysis, thermal analysis, characterization local materials to be used in the construction, and constructions plans which include practical aspects of the construction such as control measures for total suspended solids as part of the dewatering plan.
- 2vii. Fulfil requirements under the Wastewater Systems Effluent Regulations SOR/2012-139 Fisheries Act Registration 2012-06-29
- 2viii. Present plan for monitoring for leaks / spills of sewage and clean-up in the event of a spill.
- 2ix. Provide detailed design and operational information on leak detection system
- 2x. Provides details on mitigation measures in the event of a leak
- 2xi. Provide a detailed groundwater monitoring plan including locations of monitoring wells, monitoring frequency, and analysis to be done.
- 2xii. Update the Preliminary Decommissioning Plan and associated Financial Assurance (PDP/FA) to reflect the Project Detailed Design for construction licensing, and subsequently for operations licensing. The PDP/FA will comply with requirements of the following documents:
 - CNSC Regulatory Guide G-206: Financial Guarantees for the Decommissioning of Licensed Activities
 - CNSC Regulatory Guide G-219: Decommissioning Planning for Licensed Activities
 - All requirements of the Project Certificate issued by NIRB which are related to decommissioning
 - All requirements of land use permits which are related to decommissioning.
- 2xiii. In addition, the following information sources will be utilized
 - Experience gained at AREVA's Saskatchewan based operations (Cluff Lake Project and McClean Lake Operation)
 - The Nunavut Tunngavik Incorporated Reclamation Policy (2008)
 - Environmental Guideline for Site Remediation (2002)
 - CSA N294-09 Decommissioning of facilities containing nuclear substances
 - Existing guidelines (e.g., CCME)

- 2xiv. The PDP/FA will be updated when necessary to reflect the changes in project activities
- 2xv. The Detailed Decommissioning Plan (DDP) will be developed for regulatory approval towards the end of the operational period, to facilitate a seamless transition from operations to decommissioning

Engagement and Inuit Qaujimajatuqangit

- 3i. AREVA will continue to consult with the stakeholders throughout project life
- 3ii. Upon completion of the FEIS, IQ data gathered by AREVA will be provided to the KIA and NTI for storage.

Aquatic Environment

- 5i. AREVA will submit detailed design information on the mitigation designs, facilities, and equipment to minimize impacts to surface water, as well as the proposed operational programs for these facilities as part of the licensing package to CNSC.
- 5ii. The Kiggavik Project will comply with the Metal Mining Effluent Regulations which stipulate discharge limits for deleterious substances, and require routine monitoring of effluent.
- 5iii. Pre-development baseline benthic invertebrate tissue chemistry will be collected. This will be provided as part of the licensing/permitting process.
- 5iv. AREVA will include a summary of available findings and feedback from Aboriginal engagement on fish habitat compensation options in the detailed fish habitat compensation plan, presented at the time of Authorization.
- 5v. Provide additional cross sections that display the site hydrogeology and relationship between the faults and the proposed mines.
- 5vi. Details of the hydrogeology follow-up program will be provided prior to licensing and will include plans for acquiring additional baseline groundwater chemistry, hydraulic heads, and thermal conditions. The program will also include further study of the hydrogeologic relationship between faults and the mines that penetrate through the permafrost.
- 5vii. Initiate additional static and kinetic testing of Type 2 drill core samples.
- 5viii. Initiate drill core sampling and static testing of samples from the purpose built pit.
- 5ix. Implementation of the proposed Mine Rock Characterization Monitoring and Follow-up Program, including during the construction and early mine development stage of the operation:
- investigations into the chemical properties of mine rock at Kiggavik and Sissons during operation as part of a Mine Rock Optimization and Validation Program;
 - installation of monitoring wells downgradient of the permanent clean mine rock stockpiles and downgradient of the Type 3 temporary stockpiles during operations,
 - installation of monitoring wells within the backfilled Type 3 rock after relocation to the pit after mine closure.

The Follow Up program will focus on the water quality effects from all mine rock types

5x. AREVA will provide thermal modeling results of the Andrew Lake pit to the CNSC during licencing.

Terrestrial Environment

- 6i. AREVA will endeavour to examine additional sources of information to improve the wildlife tissue information which supports the ecological risk assessment.
- 6ii. AREVA will work collaboratively with local hunters to gather additional information on species subjected to harvest. Emphasis will be placed on high profile species (caribou and musk ox) and wildlife with aquatic feeding habitats (waterfowl). It is anticipated that this additional information may be available at the time of licensing and permitting.
- 6iii. AREVA will conduct additional nest and den surveys along the winter road and all weather road corridors prior to construction.

Marine Environment

- 7i. AREVA will provide an updated marine shipping plan that will include details regarding compliance to the following regulations, standards, and guidelines, where appropriate:
 - Response Organization and Oil Handling Facility Regulations
 - Vessel Pollution and Dangerous Chemicals Regulations
 - Environmental Response Arrangement Regulations
 - Oil Handling Facilities Standards (TP 12402)
 - Release and Environmental Emergency Notification Regulations
 - Response Organization Standards (TP 12401)
 - Guidelines for Reporting Incidents Involving Dangerous Goods and Harmful Substances and/or Marine Pollutants
 - Marine Transportation Security Regulations
- 7ii. The updated marine shipping plan will also include operators having double redundant radio equipment capable of communicating and coordinating with NORDREG and the Canadian Coast Guard

Socio-Economic Environment

- 9i. Discuss with NHC means to facilitate access to preferred housing on the part of AREVA's permanent workers.
- 9ii. Licenses and permits required for heritage resource protection will be applied for during the appropriate stage. Details will be included in the Archaeology Mitigation Plan and Road Management Plan.

Accidents and Malfunctions

- 10i. An updated contact list regarding Government Mandatory Reporting Requirements will be provided at Project licensing. GN Department of Health and Social Services contact information will be added to this list.
- 10ii. An updated spill contingency plan compliant with applicable Nunavut Environmental Protection Act and Nunavut Spill Contingency Planning and Reporting Regulations requirements will be provided for review and approval at Project licensing.

Appendix 2: Commitment List from Technical Meeting and post-Technical Meeting

Commitment List from Technical Meeting

Commitment #	Concerned Party	Draft Commitment	To be provided by:	Timeline	Additional Comment
DEIS Organization & Project Description including Alternatives Assessment, Geology, Geotechnical Information and Waste Management					
1	Baker Lake HTO	Continue to communicate access road options AREVA is assessing for an environmental assessment approval and include community comments in engagement section of the <i>final</i> environmental impact statement (FEIS). Given possible approval of multiple access road options, AREVA will list influencing criteria for a decision to construct an all-season road in the FEIS.	AREVA	FEIS/EA process/licencing stage	
2	CNSC	Provide a discussion in the FEIS on the sampling that would be conducted at the east and center tailings facilities during operations to verify the hydraulic conductivity of produced tailings to inform the final design of the Main Zone tailings management facility (TMF).	AREVA	FEIS/post-EA	Related to CNSC-10 technical comment
3	CNSC	Provide a discussion in the FEIS that outlines contingencies or mitigation measures for the conceptual design of the Main Zone TMF in the event that the hydraulic conductivity of the tailings are lower than predicted and may result in a long time to achieve tailings consolidation.	AREVA	FEIS/post-EA	Related to AREVA technical commitment 2J
4	CNSC	Commit in the FEIS to verify the site mean annual surface temperature with measured ground thermal data and update the thermal modeling with the measured ground thermal and climate data.	AREVA	FEIS/post-EA	Related to CNSC-9 technical comment & AREVA technical commitment 5L
5	CNSC	Add text to commitment 5vi "the program will also include further study of hydrogeologic relationship between faults and the mines that penetrate the permafrost including the measurement of the hydraulic conductivity of major faults at mine sites and updates of inflow predictions to the mines."	AREVA	Post-EA/Licencing	Related to IR-CNSC-5
6	CNSC	Provide a figure similar to figure 4 in Appendices 1 and 2 of the responses to show the regional or local major fault zones, if any, which cut through the underground mine at End Grid.	AREVA	FEIS	Related to IR-CNSC-5
7	AANDC	Continue to update commitment list table that refers to information to be provided in the FEIS and during the post-environmental assessment (EA) phases and include information requested by AANDC in information request (IR) #25.	AREVA	FEIS	Related to AANDC-23 and IR-AANDC-25
8	AANDC	AREVA will conduct further investigation regarding the characterization of the overburden soils at each mine area including thickness, and stability analysis of the overburden soils as discussed in the geotechnical appendix.	AREVA	Licensing	Related to AANDC-1
9	AANDC	Provide summary of details of the mine design criteria and geotechnical design parameters regarding configuration, location, factor of safety and other performance criteria in a tabular format.	AREVA	FEIS	Related to AANDC-1
10	AANDC	Present a program for geotechnical studies that will be used in the final design of the Andrew Lake containment dike in the FEIS. The program should include: a) geological mapping of visible on-land rock fractures and presence of faults; and b) measurement of hydraulic conductivity in the unfrozen bedrock in the lake. Further, show or discuss in the FEIS a conceptual mitigation component in their preliminary containment dike design that would prevent unacceptable seepage through the fractured rock.	AREVA	FEIS	Related to AANDC-2
11	AANDC	Provide conceptual designs including mitigation measures for construction design options for the Andrew Lake dewatering structure.	AREVA	FEIS	Related to AANDC-2
12	AANDC	Provide a comparison of the design of containment ponds with similar operations in the arctic in order to provide confidence in the effectiveness of the design. This comparison should consider potential deficiencies outlined in AANDC Technical Comment #3, including operation of the leak detection system.	AREVA	FEIS; final designs to be provided at Licencing	Related to AANDC-3
13	AANDC	Provide additional information on the robustness of the tailings facility design and potential mitigation measures that could be undertaken related to the design of the facility considering the potential for permafrost degradation and the near surface groundwater flow under the conditions of no permafrost.	AREVA	FEIS	Related to AANDC-4
14	KIA	Update commitment 2J to read that it would be discussed in the FEIS. "AREVA will discuss the consolidation of tailings and options to decrease the length of time required for consolidation to occur in the FEIS."	AREVA	FEIS	KIA request
15	AANDC	Include consideration of composting its viability within AREVA's waste management strategy.	AREVA	FEIS	
16	NIRB	Add discussion of the effluent treatment process alternatives that were listed in Appendix 2A, Table 2 in the DEIS.	AREVA	FEIS	
17	NRCan	Update Section 2.3.5.8 of Volume 2 in the FEIS with the requirement to obtain an Explosives Factory Licence	AREVA	FEIS	
18	KIA/NIRB	Continue to summarize engagement collected and update the list of issues raised in Volume 3 including information collected on discussions on the access road.	AREVA	FEIS	
Atmospheric Environment including Climate, Air Quality, Noise and Vibration					
19	CNSC	Reword commitment 4C to read as follows: "AREVA will provide additional information on the radon emanation from tailings within the FEIS in accordance with IAEA TRS 333."	AREVA	FEIS	

Commitment List from Technical Meeting

20	NIRB	Review 2011 and 2012 ambient air quality baseline data and determine whether or not the quality of the data can be used in the assessment of the ambient air quality program, especially for the high volume air sampler monitoring	AREVA	FEIS	Volume 4, Part A
21	NIRB	Provide rationale and justification as to why the effects of noise and vibration from Project activities are not assessed as part of the worker health assessment	AREVA	FEIS	Volume 4, Part B
22	EC	Replace 4A with: "The FEIS will contain additional transparency on the model used for the predictions of dust for the Kiggavik project"	AREVA	FEIS	Related to AREVA technical commitment 4A
23	KIA	Provide a framework for the Dust Monitoring and Mitigation Plan. The Framework should address process for: a) The collection and incorporation of Inuit Qaujimajatuqangit (IQ) to inform plan development; b) The development of a monitoring and mitigation plan to detect and respond to dust issues in a preventive and proactive manner and which addresses spatial and temporal aspects and parameters to include in a monitoring program; and c) The implementation of the Dust Monitoring and Mitigation Plan.	AREVA	FEIS	KIA technical comment 22, 39 & AREVA technical commitment 4D
24	EC	Provide additional information on the specific types of emission control devices and control efficiency to be used for equipment to reduce emission sources after conducting a detailed design of the emission control devices. The information will be provided to EC at the CNSC licensing stage.	AREVA	CNSC licencing phase	Related to EC 3
Aquatic Environment including Water Management, Freshwater Environment, Hydrology, Hydrogeology & Mine Rock Characterization					
25	NRCAN/CNSC	Meet with NRCAN and CNSC regarding the criteria used to define lakes that may support the formation of taliks and report back the results of the discussion.	AREVA	Before FEIS	Related to CNSC 19
26	NRCAN/CNSC	Revise and undertake the following: 1) use a range of ground temperatures (between -5 to -8°C as presented in the DEIS to determine whether additional lakes should be considered to have potential hydrologic connections to the deep groundwater flow system and the currently available thermal data will be used to update the thermal models; 2) provide a list of all lakes analyzed, including the characteristics of the lakes and multiple lines of reasoning (with lake specific conditions) that are used to determine whether or not there is a talik under each lake; and 3) update the groundwater model, inflow rate and other groundwater flow related calculations should the new analysis identifies additional taliks that should be added to the boundary conditions.	AREVA	FEIS	Related to NRCAN 3, 4 and CNSC 19
27	NRCAN/CNSC	Additional thermal data will continue to be collected post-EA to provide AREVA with an improved characterization of ground thermal conditions to periodically update these thermal models as part of the hydrogeologic follow-up program.	AREVA	Post-EA	Related to NRCAN 3, 4 and CNSC 19
28	KIA	Provide clarification on the definition used of 'acceptable levels' for total suspended solids and turbidity outside the silt curtain during construction of in-water and shoreline structures.	AREVA	FEIS	Related to KIA 53
29	GN	Provide an assessment of the potential combined effects of the project, climate change and permafrost to changes in wetlands	AREVA	FEIS	Related to GN 29 and IR-30
30	CNSC	Provide attachments E and F (related to data and calculations of waste rock segregation) as referenced in Appendix 5F to parties for review.	AREVA	prior FEIS	CNSC14
31	CNSC	Update commitment 5vii to: "Initiate additional static and kinetic testing of Type 2 drill core samples and include and update of waste volumes and loading rates based on the testing results of Type 2 rock." and include this commitment in the FEIS.	AREVA	FEIS/post EA	Related to CNSC 14, 15 & 16 & AREVA technical commitment 5vii
32	CNSC	Provide plan view map that shows the fault zones that were used in the models for the mine inflow predictions.	AREVA	FEIS	Related to CNSC 5 and AREVA technical commitment 5v
33	AANDC	Provide rationale for additional waste rock sampling and testing, and provide contingencies for the management of waste rock in the FEIS should the predicted quantities of each type change.	AREVA	FEIS	Related to AANDC 5, 6 & 7
34	AANDC	Provide clarification in the FEIS on the sourcing of Type 1 rock for initial construction purposes to demonstrate that it can be sourced within the existing site footprint.	AREVA	FEIS	Related to AANDC 8
35	AANDC	Reword commitment 5A to: "AREVA will revise Tier 3, Volume 2, Appendix 2I in the FEIS in order to clarify information in the site water management plan. Updated water balance diagrams for baseline conditions and construction, operational and decommissioning phases of the Project will be included."	AREVA	FEIS	Related to AANDC 9
36	EC	Reword commitment 8Z to "In response to EC's technical comments, additional information on the ecological dose calculations including the derivation of the fish transfer factor as well as a sample calculation for ecological dose for both aquatic and terrestrial receptors will be incorporated into the FEIS."	AREVA	FEIS	Related to EC 40 and AREVA technical commitment 8Z
37	DFO	DFO to provide most up to date Freshwater Intake End of Pipe Intake Guideline for all intake structures proposed for withdrawal related to the project, including winter water withdrawal for the winter access road.	DFO	During regulatory phase	Related to DFO-2
38	DFO	Need for blasting to facilitate the construction of the diversion channel between the upstream portion of Mushroom/End Grid stream and End Grid Lake will be determined at fisheries authorization stage and the information on whether not blasting would be required would be provided at that time	AREVA	DFO Authorization	Related to DFO-3

Commitment List from Technical Meeting

39	DFO	Conduct additional baseline data in the Northwest and East Basins of Judge Sissons Lake where the effluent diffusers are proposed to be located.	AREVA	DFO Authorization	Related to DFO-5
40	DFO	Update Appendix 5L to include a discussion on temporary crossings	AREVA	FEIS/DFO Authorization	Related to DFO-10A
41	DFO	Provide further clarification on Table 10-1 and why certain habitat/crossings were identified as not being available	AREVA	Prior to DFO Authorization	Related to DFO-10A
42	DFO	Provide cofferdam options that could be used to isolate work areas from flowing water.	AREVA	FEIS	Related to DFO-10C
43	DFO	Update fish habitat compensation plan in collaboration with stakeholders prior to the FEIS and include any updates based on potential changes to the Fisheries Act that might be upcoming recognizing that details provided would be available at authorization stage.	AREVA, DFO?	FEIS	Related to DFO-15
44	EC	Provide additional details on the selection of constituents of potential concern (COPC) and the exclusion of others in the assessment related to potential impacts on the receiving environment from project releases. This discussion will rely on the expected water treatment plant (WTP) effluent discharge (Volume 2) and experience at other sites.	AREVA	FEIS	Related to EC 11 & AREVA technical commitment 8U
45	GN	Change timeline for providing an "updated spill contingency plan compliant with applicable Nunavut Environmental Protection Act and Nunavut Spill Contingency Planning and Reporting Regulations requirements for review and approval" to the FEIS.	AREVA	FEIS	Related to AREVA technical commitment 10ii
46	EC	Monitor total suspended solids in freshwater diversion channels four times during the open water season for the first year following construction, in order to assess the adequacy of the erosion control measures.	AREVA	FEIS	Related to EC 28 technical comment
47	NIRB	Include an analysis of the marine shipping activities on the freshwater aquatic environment of Baker Lake in the aquatic environment volume (Volume 5).	AREVA	FEIS	
Terrestrial Environment including Wildlife, Migratory Birds, Species at Risk, and Vegetation					
48	GN	Update technical commitment 6K to the following: "The cumulative effects assessment will be presented as a comparison between the winter and all-season road options rather than a conservative assessment of the all-season road as presented in the DEIS."	AREVA	FEIS	Related to GN 17, 23, 24
49	GN	Further discussion with the Government of Nunavut to assess the accuracy of their ecological land classification (ELC) imagery in the Kiggavik regional study area (RSA).	AREVA/GN	FEIS	Related to GN 25
50	GN	Conduct a sensitivity analyses on ELC data habitat classes used in the assessment. The accuracy assessment will be incorporated by AREVA in the FEIS, and AREVA will review and revise confidence levels in impact predictions where warranted.	AREVA	FEIS	Related to GN 25
51	GN	AREVA to look at best practices and lessons learned from other mining industry regarding potential effects to caribou from project infrastructure (linear features) to caribou and integrate lessons learned in the mitigation and monitoring plans.	AREVA	FEIS	Related to AREVA technical commitment 6F
52	GN	At the request of the GN, AREVA will conduct a shorebird habitat loss assessment and will include it in the FEIS.	AREVA	FEIS	Related to GN 27
53	GN/EC	Provide a more detailed discussion on how AREVA will meet the requirements of the Migratory Bird Convention Act and the Migratory Bird Regulations including the recommendations made by EC in technical comment 6.	AREVA	FEIS	Related to GN 26 & EC 6
54	EC	Provide a framework for the monitoring plan that would include a) the monitoring of waterfowl and waterbird to document the use of the TMF, water storage facility, site drainage ponds, water monitoring ponds and sedimentation ponds; and b) mitigation measures that would be put in place.	AREVA	FEIS	Related to EC 7
55	KIA/GN/NIRB	Update the Wildlife Mitigation and Monitoring Plan (WMMP) framework for the FEIS. The framework will include items such as AREVA support of regional monitoring programs for species including caribou, grizzly bear and wolverine. The WMMP framework will address local ground-based surveys for direct project interactions with the following species and groups: caribou, grizzly bear, wolverine, wolves and birds. The Project interactions will include consideration for roads and pipelines. The WMMP will be developed with input from Inuit Qaujimajatuqangit (IQ) holders and will include explicit reference to the role of IQ in monitoring project effects on wildlife, the use of IQ indicators and measures (to be developed with IQ holders) and the use of IQ monitoring results in the adaptive management process. The information from this plan will be evaluated within AREVA's continual improvement and adaptive management framework.	AREVA	FEIS	Related to KIA 89, GN 14, & AREVA technical commitment 6F
56	EC	Include in the WMMP framework a commitment to log and map ship tracks and report it in the annual monitoring reports	AREVA	FEIS	Related to EC 10
57	GN/NIRB	AREVA will include wolf as a key indicator and undertake an assess of wolf denning habitat loss in the FEIS.	AREVA	FEIS	Related to TC Commitment 6L
58	KIA	Provide rationale to the cumulative effects assessment to explain why AREVA considered the Meadowbank Mine and 5 communities in the region for the assessment of habitat loss and that exploration activities were not included.	AREVA	FEIS	Related to KIA 91
59	KIA	Provide rationale of the 50 caribou threshold used in the WMMP in the FEIS as provided in IR-KIA05: The Government of Nunavut Department of Environment (GN-DOE) communicated the acceptability of a 50 caribou threshold in correspondence to the NIRB dated December 16, 2008.	AREVA/GN	FEIS	Related to KIA 93

Commitment List from Technical Meeting

60	EC	Update technical commitment 6N to: " AREVA will adopt the methodology presented by EC for determining the zone of influence (ZOI) for the Pointer Lake airstrip on migratory birds and include information regarding the potential types of aircraft used and frequency of flights for each phase of the project.	AREVA	FEIS	Related to EC 5A & AREVA technical commitment 6N
61	EC	Provide further discussion on the practicality of complying with the following: "Fly at times when few birds are present (e.g., early spring, late fall, winter) • If flights cannot be scheduled when few birds are present, plan flight paths that minimize flights over habitat likely to have birds and maintain a minimum flight altitude of 650 m (2100 feet). • Minimize flights during periods when birds are particularly sensitive to disturbance such as migration, nesting, and moulting. • Plan flight paths to avoid known concentrations of birds (e.g., bird colonies, moulting areas) by a lateral distance of at least 1.5 km. If avoidance is not possible, maintain a minimum flight altitude of 1100 m (3500 feet) over areas where birds are known to concentrate. • Avoid the seaward side of seabird colonies and areas used by flocks of migrating waterfowl by 3 km. • Avoid excessive hovering or circling over areas likely to have birds. • Inform pilots of these recommendations and areas known to have birds."	AREVA	FEIS	Related to EC 5C
62	NIRB/GN	Provide a discussion of invasive species from all types of transportation with respect to aquatic and terrestrial plant and animal species.	AREVA	FEIS	
63	Baker Lake HTO/KIA	Based on comments from the BLHTO and KIA, to inform the social and ecological context of the Final Environmental Impact Statement, AREVA will use IQ and western science to: (1) characterize seasonal land use and harvesting and assess effects on these uses and areas; (2) contribute to the assessment of effects on grizzly bear, wolf and wolverine distribution; and (3) contribute to the assessment of effects on other important wildlife species (e.g., caribou, marine mammals, other trapped species). Information on effects on traditional land use and harvesting will be used in combination with information on effects on the biophysical environment to (a) complete the screening for cumulative effects; and (b) determine the significance of project effects and cumulative effects.	AREVA	FEIS	
Marine Environment & Marine Transportation					
64	NTI/KIA	AREVA to elaborate the rationale to be used in potentially selecting an alternative to the 5000 tonne barge. Provide a discussion on shipping routes, traffic communication and management systems as well as the safety aspects of moving it through the Chesterfield Inlet Narrows.	AREVA	FEIS	Related to KIA 26/KIA 27
65	GN	Reword technical comment 7A to: "AREVA will work with the Government of Nunavut to ensure that the most recent polar bear data are considered in the FEIS. If the cumulative effects screening demonstrates that a cumulative effects assessment is necessary, then AREVA will conduct this analysis for the FEIS."	AREVA	FEIS	Related to GN 18
66	DFO	DFO to provide risk assessment process developed by Transport Canada and Fisheries and Oceans Canada to AREVA to determine if invasive species can be brought into arctic waters with ballast water	DFO	Prior to FEIS	
67	DFO	Expand on the issue of marine invasive species and provide a discussion in the FEIS on how AREVA will work with Fisheries and Oceans Canada, Transport Canada, and marine shipping operators in the region to identify and implement best practices to minimize risk of marine invasive species.	AREVA	FEIS/Post-EA	
Human Health and Risk Assessment					
68	GN	Include Table 4.2-27 (Winter food consumption of traditional foods in Baker Lake) in Appendix 9A into Appendix 8A for further clarity.	AREVA	FEIS	
69	GN	Provide a discussion on how AREVA will review environmental monitoring data with respect to ecological effects and its relation to human health, provide routine reporting of environmental performance and periodically-update the ERA and HHRA in accordance with established standards.	AREVA	FEIS/Post-EA	Related to GN-HSS 31 technical comment
70	CNSC	Modify commitment 8A to read: "The worker radiation exposure assessment will be updated in the FEIS to improve clarity on the calculations of worker doses. The detailed dose methodology and the development of scaling factors will be described in detail. Example calculations will be provided to further illustrate how scaling factors were used to estimate doses at the Kiggavik site.	AREVA	FEIS	Related to CNSC 34, 35, 36, 41
71	CNSC	Review and correct as necessary any errors in dose values found in tables in Section 6.4 of Tier 2, Volume 8 (Human Health)	AREVA	FEIS	Related to CNSC 34, 35, 36, 41
72	CNSC	Include dose estimates and detailed calculations for workers based on variable ore grades to prove that worker dose assessments are insensitive to different ore grades.	AREVA	FEIS	Related to CNSC 43
73	CNSC	Policies, process, procedures and training programs will be developed during licensing that incorporate an integrated approach to the management of human performance.	AREVA	Post-EA	Related to CNSC 47
Cumulative Effects Assessment					
74	NIRB	Update the Project Inclusion List and associated map with the addition of communities in Saskatchewan, Manitoba and Northwest Territories. Clarify the scope of past, present and future projects in the FEIS and the use of the various assessment cases.	AREVA	FEIS	Related to AREVA technical commitment 6H

Commitment List from Technical Meeting

Public Engagement and Incorporation of Inuit Qaujimajatuqangit principles

75	KIA	For the final EIS, AREVA to prepare a "Framework for Management of Risk Perception" that will include existing commitments made by AREVA during the technical review (3A, 3D and 3i) to address, in addition: 1) how lessons learned from projects in Northern Canada and Saskatchewan can be applied to the Kiggavik project; 2) identification and incorporation of best practices for managing perception of risk to community well-being and harvesting of country foods; 3) a plan for communicating risk and informing communities; and 4) a plan for reporting changes in community perception of risk and well-being	AREVA	FEIS	Related to AREVA technical commitment 3A, 3C and 3i
76	Baker Lake HTO	Reword technical commitment 3D to read "In the FEIS, AREVA will provide clarity on IQ methodology including how IQ was collected (while respecting confidentiality requirements), summarized and integrated throughout the assessment including i) inclusion of Figure 5.1-A and associated discussion in the FEIS and ii) inclusion of an IQ roadmap which expands on information presented in IR Table Makita 1, 2, 3, " iii) <i>Provide further discussion on where IQ was consistent, and whether it aligned or did not align with western science</i>	AREVA	FEIS	Related to AREVA technical commitment 3D
77	GN	Consider additional climate change IQ that is available through the Nunavut Climate Change Centre, and the information in the Arctic Climate Impact Assessment Report (2005) in the assessment of the project.	AREVA	FEIS	Related to GN 11

Socio-Economic Environment and Assessment including Heritage Resources

78	GN/KIA	Change Commitment 9N to the following: "Following discussion with GN and KIA, add a section to FEIS, Volume 9, Part 1 which compiles relevant information from socioeconomic, heritage resources, aquatic and terrestrial assessments in order to summarize how the Thelon River Canadian Heritage Rivers System designation has been considered and the CHRS Management Plan for the Thelon River (Economic Development and Tourism, GNWT 1990) has been followed.	AREVA/GN/KIA	Pre-FEIS	Related to GN 3 & 4 and AREVA technical commitment 9N
79	GN/AANDC	Update the Archaeological Mitigation Plan to include a discussion on the possible mitigation measures to be applied to during the life of the Project including: sampling procedures, identification of priority areas of sites, timing/work schedule and proposed consultations with stakeholders and any additional information required under the Archaeological and Paleontological Sites Regulations. It is recognized that the final details will be provided at the time of licensing.	AREVA	FEIS	Related to GN 34 and GN-IR 6
80	GN	Update the Road Management Plan on the criteria to be used in selecting snow storage areas or snow berms and the proposed locations for any known snow storage areas or snow berms since these activities may interact with heritage resources, recognizing that final details will be provided at the time of licensing.	AREVA	FEIS	Related to GN 35 and GN-IR 7
81	GN	Replace technical commitment 9I with: "Volume 9 Section 6 Social Management will be revised to more explicitly detail AREVA's undertakings to continue to maintain open dialogue, and to reach agreement on timely data sharing as appropriate, with GN departments with mandates related to Project implementation, including as examples GoF (revenue flows to GN), DoJ (justice issues) and DoE (training programs)."	AREVA	FEIS	GN37 and GN45; AREVA TC Commitment 9I
82	GN	Update technical commitment 9K to read: "Update and refine the labour force projections in Section 13.2 of the FEIS, including consideration of people expected to exit the workforce, employment growth in non mining sectors and other relevant factors."	AREVA	FEIS	GN39; AREVA TC commitment 9K
83	GN	Provide a summary of the range of training programs (e.g.. pre employment, skills upgrading, technical and supervisory/management training) at their Saskatchewan operations as well as a discussion of how these could be implemented in the context of Nunavut.	AREVA	FEIS	GN40
84	GN	Provide anticipated timelines, relative to construction start time, to initiate multi party discussions regarding Project training programs, with the intent to come to agreements on collaboration.	AREVA	FEIS	GN40
85	GN	Update technical commitment 9J to read: "In the FEIS, on the basis of new information to be provided by NHC, review and revise the description of the housing situation in Baker Lake and Rankin Inlet, the expected impacts of the Project on housing and proposed mitigation in response."	AREVA	FEIS	GN 41, 42, 43, 44; AREVA TC Commitment 9J
86	GN	Update technical commitment 9i to read: "Discuss with NHC means for AREVA to facilitate access to private housing on the part of AREVA's permanent operation phase workers."	AREVA	Post-EA	GN 41, 42, 43, 44; AREVA TC Commitment 9i
87	GN/AANDC	Update technical commitment 9E to read: "Elaborate the approach to premature closure planning in Section 6.3.9, including a statement on AREVA's commitment to collaborative monitoring (i.e. with the Kivalliq-SEMC) as one means to address the impacts of temporary or permanent closure. "	AREVA	FEIS	Related to GN 46, AANDC 19 & AREVA TC Commitment 9E
88	NIRB	Provide details on potential public access and associated mitigation for each road option.	AREVA	FEIS	
89	GN	Update Volume 9 Section 7 'Comparable Experience' with any lessons learned since DEIS submission	AREVA	FEIS	

Commitment List from Technical Meeting					
90	AANDC	Replace technical commitment 9F to read: "Prepare the FEIS with a view to including available additional detail on socio-economic mitigation and benefit enhancement, noting that additional detail that may be negotiated with the KIA for the IIBA is expected to be available at the time of the FEIS review."	AREVA	FEIS	AANDC21; AREVA TC Commitment 9F
91	AANDC	Provide further explanation for the use of a construction phase Inuit employment target of 10%.	AREVA	FEIS	Related to AANDC 20
Accidents and Malfunctions					
92	CNSC	Update FEIS to clarify that the transportation of yellowcake via land in Nunavut has been removed as an option	AREVA	FEIS	Related to CNSC 59
93	CNSC	Update technical commitment 10B to include ingestion of fish - "Additional detail will be provided to describe the calculation of human doses related to transportation incidents, including doses from ingestion of lake water and fish in the FEIS. Example dose calculations will be provided"	AREVA	FEIS	Related to CNSC 59 & AREVA technical commitment 10B
94	CNSC	Doses to workers resulting from accidents and malfunctions involving radioactive material will be included in the FEIS including calculation of radon exposure.	AREVA	FEIS	Related to CNSC 56 & AREVA technical commitment 8
95	GN/TC	Update the spill contingency plan, landfarm management plan, and the Oil Pollution Emergency Preparedness Plan (OPEP) to incorporate information available at the current stage of development provided by agencies during the technical review commenting stage	AREVA	FEIS	Related to GN 33 & GN 36, and 10iii (timeline to provide information changed from post-EA to FEIS; Related to IR-6, AANDC-53, NIRB guidelines 9.4.2
General Commitments					
96	NIRB	Provide a mechanism to show the changes made between the draft environmental impact statement and the final environmental impacts statement (e.g., a Concordance Table).	AREVA	FEIS	

Commitment List from Post-Technical Meeting

Commitment #	Concerned Party	Draft Commitment	To be provided by:	Timeline	Additional Comment
1	EC	Provide an explanation of the differences between the emission tests for the yellowcake plant stack that will occur every three years and the annual grab sample in the FEIS.	AREVA	FEIS	Related to EC 3j
2	EC	Provide the refined analysis and prediction of greenhouse gas emissions broken down by mine fleet and power generation at a minimum in the FEIS.	AREVA	FEIS	Related to EC 2
3	GN	Edit commitment 89 from the technical meeting to read: "Update Volume 9 Section 7 'Comparable Experience' to include examples of workforce support programs or policies used in AREVA's Saskatchewan operations (at other mining projects) and a discussion of how these could be implemented for Inuit employees in the context of Nunavut."	AREVA	FEIS	