

*NIRB 09MN003: Technical Review Comments for the NIRB's Review of AREVA's Kiggavik project***Task/Purpose:**

- Track the progress of the draft EIS and information requests; making clear what CARC asked for in our IRs, what was done, and what our expectations are going forward **with regards to a Cumulative Effects Assessment.**
- Sift through the paper trail to identify data that is slipping through the cracks or responsibilities that are being delegated but not acknowledged.

Table: Spatially explicit / cumulative impact-related information request items

Item	NIRBs response	AREVA's response	CARC's recommendation
1			
2.1 Cumulative Impact Assessment (CIA): No impact rankings given.	Do not meet criteria for IRs – appear to be initial technical review comments.	Consistent with the NIRB determination and given that this IR is asking for a change in the cumulative effects assessment methodology, this IR will be addressed in more detail during the technical review. By addressing this IR during the technical review, it will be considered in combination with all other technical comments regarding the cumulative effects assessment methodology for inclusion in the FEIS.	Perform a cumulative effects assessment and rank the probability of outcomes relative to one another rather than a binary response (yes/no).
2.2.2a AREVA's claim that	Do not meet criteria for IRs –	AREVA acknowledges the	Perform a sensitivity analysis

the 'short-term' duration of the mining project (20-30 years) will not interact with the long-term effects is false. Any impacts on the landscape caused by the mining project will be exacerbated by climate change.	appear to be initial technical review comments.	potential for climate change to occur during the life of the Project; however, the ability to predict how climate change will influence wildlife habitat and wildlife over the duration of the Project remains uncertain. As such, the interaction of the Kiggavik Project's residual effects on caribou habitat over the time period of climate change will be indistinguishable from this trend.	on lichen and growing-season forage within realistic bounds as projected by climate scientists for the arctic.
2.2.2b Cumulative impacts of project on RSA habitat suitability & disturbance on starvation, predators and disease.	Do not meet criteria for IRs – appear to be initial technical review comments.	Given this Information Request (IR) is asking for additional parameters to be included in the cumulative effects assessment, this IR is more appropriately addressed at the technical stage of the environmental review process. By addressing this comment at the technical stage, it will be considered in combination with all technical comments received regarding the cumulative effects assessment for inclusion in the FEIS.	Perform a cumulative effects assessment that incorporates the probability of increased predation caused by roads.
2.2.5 Cumulative impacts of	Do not meet criteria for IRs –	AREVA believes the	None

habitat loss via dust deposition, infrastructure, and ZOI.	appear to be initial technical review comments.	vegetation community influenced by dust deposition could still be classified as caribou habitat. As such, these vegetated areas potentially influenced by dust deposition were encompassed within the Zone of Influence used in the caribou habitat assessment. Caribou habitat quality located within the ZOI was downgraded, but not eliminated, as depicted in Volume 6, Section 13.2.2.1. AREVA is confident that this assessment approach was adequate in capturing and determining the effects of dust deposition on caribou habitat.	
2.12 Residual movement and health impacts are considered 'negligible' by AREVA. Want justification and placement in a CIA.		The collar data indicates that migratory caribou movements will not substantially interact with project infrastructure. Thus, project effects on caribou movement will not be detectable at the scale of seasonal migrations. Effects on caribou health are detailed in DEIS Tier 2, Volume 6, Terrestrial Environment, Section 13.2.4.	Perform residual movement and health impacts using not just collar data, but aerial- and on-the-ground survey data.

		<p>COPC (Constituents of Potential Concern) was the only measureable parameter of health determined to be relevant for this assessment. AREVA is prepared to evaluate other measurable parameters of health or the acceptability of these determinations in the technical review that will ultimately inform the FEIS submission.</p>	
2.14a No inclusion of CIA with mines in full project list.	Do not meet criteria for IRs – appear to be initial technical review comments.	<p>Given that this IR is asking for a revision in the methodology used in determining potential caribou habitat loss in the cumulative effects assessment and consistent with the NIRB determination; this comment will be addressed during the technical review. Any changes to methodology determined necessary in the technical review will be reflected in the FEIS.</p>	Perform CIA with present and future exploration included.
2.16 Obscure calculation of growing season habitat loss of Kiggavik and Meadowbanks mines in		Cumulative habitat loss was determined based on the direct footprint of Meadowbank Mine, the	Present explicit calculations (equations and formulae) since still unclear.

AREVA CIA		Kiggavik Project, and five communities within the range of the Beverly Qamanirjuaq herds, as well as the associated Zones of Influence that result in indirect habitat loss. The Kiggavik Project is expected to result in a loss of 0.2 percent habitat availability (DEIS Tier 2, Volume 6, Terrestrial Environment, Section 13.2.2.5), thus the other developments (Meadowbank and local communities) are assumed to have similar effects on habitat availability.	
Part 2	GN/NIRB Review	AREVA	
2.14b Provide the data to enable CARC to conduct our own analysis of the cumulative effects.	NIRB: Provision of raw data is at the discretion of the Proponent.	Data not owned by AREVA will have to be provided by the data owners. Informed decision making is best achieved through discussion and working together towards consensus for a common cause rather than through independent efforts.	
Caribou telemetry, aerial surveys, on-the-ground observations (GIS shapefiles)	GN: Data available		CARC notes that in addition to this response being 6 months late, this is not a

			complete response to this IR, and wasn't provided this data for the technical review.
Caribou seasonal grounds (GIS shapefiles)	GN: Reports and publications have been produced that encompass the region.		CARC notes that in addition to this response being 6 months late, this is not a complete response to this IR and wasn't provided this data for the technical review.
Locations and project envelope areas <i>from project inclusion list</i> (for lease areas, mines and roads) (GIS shapefiles)	GN: Not hosted at the GN Department of Environment.		
Ecological Land Classification and ratings (GIS shapefiles)	GN: These layers are freely available from Natural Resources Canada.	Ecological Land Classification (ELC) was completed in collaboration with the GN-DoE. Ecological Land Classification (ELC) data collected in the RSA by the Government of Nunavut (GN), which was provided under a datasharing agreement with AREVA. The GN owns the data used for the ELC work, and requests for those data should be directed to the GN	CARC requests that in order to conduct an assessment of potential cumulative impacts, this data is needed beyond the boundaries of the RSA.