Category	VEC	Topic	Project Component	Phase	Mitigation
Accidents and Malfunctions			**All**	**All**	Hazardous materials, fuel containers and other materials will be removed from the site and disposed of according to Manitoba Hydro's Hazardous Materials Management Handbook and in accordance with regulatory requirements
					The Canadian Wildlife Service (CWS) will be informed of all incidents where the spill of toxic pollutants will harm or potentially harm wildlife species and/or species at risk. In accordance with the National Policy on Oiled Birds and Oiled Species at Risk (Environment Canada 2011).
					Construction crews will be adequately trained in spill prevention and clean-up procedures
					Fuel, lubricants and other potentially hazardous materials will be stored and handled within dedicated areas at work sites and marshalling yards in full compliance with regulatory requirements
					Harmful substances, such as fuels, chemicals and herbicides will be stored greater than 100 m from the ordinary high water mark (HWM) of any waterbody
					All storage sites will be located a minimum distance of 100 m from waterbodies
					An Emergency Preparedness and Spill Response Plan will be developed and an emergency response spill kit will be kept on-site at all times in case of fluid leaks or spills from machinery

Category	VEC	Topic	Project Component	Phase	Mitigation
Accidents and Malfunctions			**All**	**All**	Only clean construction materials and equipment will be used
					Manufacturer machinery and equipment guidelines, procedures and spill prevention and emergency response measures will be adhered to
					All vehicles, machinery and construction materials will arrive on site clean and free of leaks
					Equipment refuelling and maintenance will be conducted greater than 100 m from the stream's ordinary high water mark (HWM) and away from wetlands
					When servicing equipment, waste products such as oil and antifreeze will be drained into appropriate containers and removed to an approved disposal ground
					Machinery will remain above the HWM, unless fording is required to transport equipment across the watercourse
					All fuel spills or leaks will be reported to the Manitoba Hydro Project Manager or delegate immediately upon discovery
					Any spills of hazardous substances will be cleaned up immediately and reported to the local Natural Resources Officer

Category	VEC	Topic	Project Component	Phase	Mitigation
Accidents and Malfunctions			**All**	**All**	General clean-up in storage areas, and sites where incidental spillage occurs, will be in accordance with regulatory standards
					All soil is to be remediated or disposed of in a manner approved by regulatory authorities and Manitoba Hydro
					Marshalling yards will be located on low permeability soils and upland sites, where possible (i.e., areas of well drained soils, as identified soils maps [Chapter 6] and locally by Manitoba Hydro's Construction Supervisor or Site Manager)
Air Quality and Climate	**Air Quality**		**All**	**Construction**	Low-sulphur diesel fuels should be used and unnecessary idling restricted
					Proper maintenance of construction vehicles and equipment to emission standards will also help to mitigate potential effects.
					Winter clearing and construction activities will minimize any potential dust impacts resulting from these activities
					Burning will only be carried out under suitable weather conditions, to confine fire to the cleared material on the right-of-way.
					Burning will be supervised at all times to limit off-site drift of smoke into areas that could cause nuisance or visibility issues for transportation or surrounding activities.

Category	VEC	Topic	Project Component	Phase	Mitigation
Air Quality and Climate	**Air Quality**		**All**	**Operation**	Dedicated areas would provide appropriate spill containment measures and spill response equipment, and would be located away from any sensitive features.
					Any products transferred from storage sites to work areas would not exceed the daily requirement.
					Manitoba Hydro also requires its contractors to have an emergency response plan in place that is consistent with Manitoba Hydro's spill response procedure.
					Manitoba Hydro will store fuel, lubricants, and other potentially hazardous materials within dedicated storage areas at work camps, marshalling yards, and station sites.
					Transfer of fuel must be attended at all times
	Climate		**All**	**All**	Where possible, overburden materials will be stockpiled and compacted to reduce carbon losses and capped where feasible to maintain sequestered carbon stocks within the soil
					Where construction occurs over permafrost the level of disturbance will be minimized and efforts made to retain natural thermal insulation, including the promotion of natural thermal cover re-establishment.
					Where feasible, cleared merchantable timber will be salvaged and reused

Category	VEC	Topic	Project Component	Phase	Mitigation
Air Quality and Climate	**Climate**		**All**	**All**	Care will be taken to maintain all existing above and below ground drainage patterns through proper culvert/bridge placements
					Post-construction rehabilitation will include previously cleared sites, where rehabilitation is feasible, and will include the spreading of salvaged organic soils on the surface to encourage site re-vegetation
Amphibians and Reptiles	**Northern Prairie Skink**		**HVdc Transmission and ac Collector Lines**	**Construction**	As the installation of permanent structures is considered a high level activity, towers will be located 200 m from any observed or located skink nests
					Where polygons plus associated buffers span greater than the distance between two towers, site-specific summer field surveys will be undertaken in sandy-soil habitat polygons prior to permanent tower placements.
					A 100 m buffer will be maintained around sandy-soil habitat polygons where intercepted by the Project right-of-way, within which disturbance, vegetation removal, and vehicular traffic will be limited
					Avoidance of modeled habitat will occur during tower installation where the habitat polygons are shorter than the distance between towers
				Operation	A 100 m buffer will be maintained around sandy-soil habitat polygons where intercepted by the Project right-of-way, in which disturbance, vegetation removal, and vehicular traffic is to be limited

Category	VEC	Topic	Project Component	Phase	Mitigation
Amphibians and Reptiles	**Northern Prairie Skink**		**HVdc Transmission and ac Collector Lines**	**Operation**	A 200 m buffer will be maintained around any observed or located prairie skink nests.
	Plains Spadefoot		**HVdc Transmission and ac Collector Lines**	**Construction**	Where overstory/tall-growth vegetation (i.e. trees) need to be removed within buffers for transmission line clearance, removal methods that best minimize disturbance to soil and ground cover will be used
					Where feasible, right-of-way tower installation in wetlands and associated buffers will be avoided if occurring during the non frozen season.
					Construction at wetland habitats will occur in fall or winter, outside of peak breeding periods, occurring June 1 to August 15 or suitable buffers maintained according to forest management guidelines
					Where possible, riparian buffers of 30 m will be retained around any identified suitable breeding/ wetland areas, within which disturbance, vegetation removal, and vehicular traffic will be limited
				Operation	Right-of-way maintenance along wetland habitats will occur in fall or winter, outside of peak breeding periods, occurring June 1 to August 15
					Where possible, riparian buffers of 30 m will be retained around suitable breeding/wetland habitat, in which disturbance, vegetation removal, and vehicular traffic is to be limited

Category	VEC	Topic	Project Component	Phase	Mitigation
Amphibians and Reptiles	**Plains Spadefoot**		**HVdc Transmission and ac Collector Lines**	**Operation**	Where overstory/tall-growth vegetation (i.e. trees) needs to be removed within buffers for transmission line clearance, removal methods that best minimize disturbance to soil and ground cover will be used.
	Red-Sided Garter Snake		**HVdc Transmission and ac Collector Lines**	**Construction**	Where removal of tall-growth vegetation is necessary at suitable hibernacula habitat and buffers, ground disturbance will be minimized wherever possible
					If avoidance of tower installation is not possible at suitable hibernacula habitat, tower installation will occur during the summer months (from June 1 to August 31), outside of the hibernacula activity period, or summer field investigations will be conducted, prior to tower placement.
					Where suitable garter snake hibernacula habitat and associated buffers fall between two permanent tower sites, avoidance of habitat during tower installation is recommended
					A buffer of 200 m will be maintained around garter snake hibernacula habitat year round, especially from permanent tower sites, within which blasting, ground disturbance, vegetation removal and vehicular traffic will be limited
				Operation	A buffer of 200 m will be maintained around identified garter snake hibernacula habitat during the growing season, where maintenance activities will be planned to avoid disturbance or damage.

Category	VEC	Topic	Project Component	Phase	Mitigation
Amphibians and Reptiles	**Red-Sided Garter Snake**		**HVdc Transmission and ac Collector Lines**	**Operation**	Where removal of tall-growth vegetation is necessary, ground disturbance will be minimized
	Wood Frog		**Ground Electrodes and Lines**	**Construction and Operation**	Construction will occur in fall or winter, outside of peak anuran breeding periods, occurring April 1 through the end of May for the wood frog.
			HVdc Transmission and ac Collector Lines	**Construction**	Where overstory/tall-growth vegetation (i.e. trees) needs to be removed within buffers for transmission line clearance, removal methods that best minimize disturbance to soil and ground cover will be used
					Construction at wetland habitats will occur in fall or winter, outside of peak wood frog breeding periods, i.e. not between April 1 and May 31.
					Construction at wetland habitats will occur in fall or winter, outside of peak anuran breeding periods, occurring April 1 through the end of May, for the wood frog
					Where possible, a buffer of 30 m will be retained around any identified breeding/wetland areas that occur along the Project right-of-way, in which disturbance, vegetation removal, and vehicular traffic is limited
				Operation	Where overstory/tall-growth vegetation (i.e. trees) needs to be removed within buffers for transmission line clearance, removal methods that best minimize disturbance to soil and ground cover will be used.

Category	VEC	Topic	Project Component	Phase	Mitigation
Amphibians and Reptiles	**Wood Frog**		**HVdc Transmission and ac Collector Lines**	**Operation**	Where possible, a vegetation buffer of 30 m will be retained around any identified breeding/wetland areas that occur along the Project right-of-way, in which disturbance, vegetation removal, and vehicular traffic is to be limited
					Right-of-way maintenance at wetland habitats will occur in fall or winter, outside of peak wood frog breeding periods, occurring April 1 through the end of May
			Keewatinoow Converter Station Area	**Construction and Operation**	Construction at wetland habitats will occur in fall or winter, outside of peak wood frog breeding periods, (i.e. not between April 1 and May31).
Aquatic Environment	**Surface Water Quality and Fish Habitat**		**Borrow Sites and Excavated Material Placement Areas**	**Construction**	Excavations will not be undertaken below the water table
					Spill containment equipment will be put in place in borrow areas for large fuel containing stationary equipment (e.g., crushing equipment). For mobile equipment a re-fueling area will be designated away from depressional or excavated areas.
					Riparian Management Areas (RMAs) will be established surrounding all water bodies, as follows: Important fish habitat – 30 m Reserve Zone Marginal fish habitat – 15 m Reserve Zone.

Category	VEC	Topic	Project Component	Phase	Mitigation
Aquatic Environment	**Surface Water Quality and Fish Habitat**		**Borrow Sites and Excavated Material Placement Areas**	**Construction**	Drainage control measures will be used around excavated material placement areas to prevent sediment-laden runoff from reaching any adjacent streams.
					Appropriate measures will be put in place for safe fuel handling and spill containment. Oil or other machinery lubricants will not be dumped in borrow areas.
					Borrow pits and excavated material placement areas will be located away from streams and waterbodies to avoid potential effects of borrow pit activity on fish and fish habitat
				Operation	Vegetation control including the application of herbicides during station operation will adhere to appropriate best management practices that prevent any off-site movement of chemicals and to appropriate application by certified applicators.
			HVdc Transmission and ac Collector Lines	**Construction**	Appropriate erosion and sediment control measures will be implemented to mitigate sediment introduction into watercourses.
					In addition for the eight sites identified as High sensitivity to disturbance , sites-specific sediment and erosion control plans will be developed
					Erosion and sedimentation control measures will be routinely inspected to ensure effectiveness

Category	VEC	Topic	Project Component	Phase	Mitigation
Aquatic Environment	**Surface Water Quality and Fish Habitat**		**HVdc Transmission and ac Collector Lines**	**Construction**	Removal of riparian vegetation will be limited to select plants within the right-of-way required to accommodate overhead lines, and uprooting of plants will be minimized
					Clearing limits and sensitive areas will be clearly marked prior to vegetation removal
					Clearing will be conducted under favourable weather conditions. Construction activities will be postponed under adverse weather (i.e., storm events) to minimize potential sediment introduction into the aquatic environment
					Slash/debris piles will be adequately stabilized and stored well above the (HWM)
					Any uncured or partly cured concrete will be kept isolated from water courses
					Concrete wash water or water that has contacted uncured or partly cured concrete will be isolated from watercourses until it has reached a neutral pH.
					Where necessary, measures to protect the streambed and banks will be in place prior to fording (e.g., pads, swamp mats). Protection measures will not impede fish passage, or constrict flows
					If fording will likely result in erosion and degradation of the streambed and banks, a temporary bridge will be constructed.

Category	VEC	Topic	Project Component	Phase	Mitigation
Aquatic Environment	**Surface Water Quality and Fish Habitat**		**HVdc Transmission and ac Collector Lines**	**Construction**	Disturbed riparian areas will be re-vegetated following completion of works
					Temporary stream crossings will be constructed only where existing crossings do not exist or are not practical for use
					Temporary stream crossings consist of bridges, dry streambed fords or a one-time ford in flowing waters
					Whenever possible, existing trails, roads and cut lines will be used as access routes
					Crossings will be constructed on a straight section of the watercourse, perpendicular to the channel
					Clean materials will be used in the construction of temporary crossings and all materials will be removed upon project completion or prior to freshet whichever occurs first
					One-time fording of flowing streams and temporary bridge construction will only occur where the channel width is less than five m (from HWM to HWM)
					Fording in flowing waters will occur within appropriate fisheries timing windows, as outlined in DFO’s Manitoba In-water Construction Timing Windows for the Protection of Fish and Fish Habitat (DFO 2007d)

Category	VEC	Topic	Project Component	Phase	Mitigation
Aquatic Environment	**Surface Water Quality and Fish Habitat**		**HVdc Transmission and ac Collector Lines**	**Construction**	Fording will occur under low flow and favourable weather conditions and will avoid known fish spawning areas
					Riparian Buffers o Perennial water bodies – 30 m Reserve Zone o Ephemeral/intermittent water bodies – 7 m Machine Free Zone. Fish habitat: o Important fish habitat – 30 m Reserve Zone o Marginal fish habitat – 15 m Reserve Zone o No fish habitat – 7 m Machine Free Zone.
				Operation	All waste materials (slash) will be stabilized well above the HWM to mitigate entry into the watercourse
					Application of herbicides will adhere to appropriate best management practices and all chemical applications will be conducted by a certified applicator.
					In riparian areas, vegetation will be maintained in a way that leaves root systems intact
					Riparian vegetation maintenance within 30 m of the HWM will affect a maximum of 1/3 of woody vegetation (e.g., trees and shrubs) within the right-of-way
					Riparian vegetation maintenance will be conducted by the method that minimizes stream bank disturbance and if rutting or erosion is likely, appropriate bank protection measures will be implemented prior to machinery use

Category	VEC	Topic	Project Component	Phase	Mitigation
Aquatic Environment	**Surface Water Quality and Fish Habitat**		**Keewatinoow Converter Station**	**Construction**	Turbid water generated from the isolated work site will be pumped away from the watercourse to a vegetated area, filter fabric dam or other acceptable area that will provide filtration and/or settling time prior to entering watercourses
					Wash water will be treated to meet the Manitoba Water Quality Standard for municipal wastewater effluents of 30 mg/L TSS prior to discharge
					Wash water will be treated, as required, to meet the Manitoba Water Quality Standards, Objectives, and Guidelines (MWQSOG) for the protection of aquatic life for pH 6.5-9.0, prior to discharge
					Instream work will be conducted during favourable weather conditions. Construction will be postponed under adverse weather (i.e., storm events), to minimize potential sediment introduction into the aquatic environment
					Any drainage diversions will be removed following completion of works. The site will be restored and all disturbed surfaces stabilized (i.e. re-vegetated).
					During spring runoff erosion and sediment control measures will be in place to ensure sediment laden water does not leave the Keewatinoow site or enter nearby streams

Category	VEC	Topic	Project Component	Phase	Mitigation
Aquatic Environment	**Surface Water Quality and Fish Habitat**		**Keewatinoow Converter Station**	**Construction**	Sediment fencing should be used and installed correctly where there is the potential for erosion of exposed soils to enter adjacent water bodies or wetlands. Silt fencing must be maintained and damaged fence repaired immediately
					Erosion prone areas, such as steep slopes, erodible soils, wet areas, and areas adjacent to watercourses, will be monitored to ensure erosion is minimized
					Erosion control measures will be used, as required, in the ditches to reduce surface erosion and the washing or blowing away of seed
					Surface runoff will be directed into well-vegetated areas or settling basins and to existing drainage systems when possible
					Contractors will provide sufficient erosion control materials on-site (such as sediment fencing, stakes, and geotextile fabric) to facilitate timely response to erosion and sedimentation issues that arise during construction activities
					The application of soil erosion control measures will be implemented when there is evidence of potential soil erosion (e.g., erosion of topsoil berms or piles, etc.) and immediately after grading is completed to stabilize the soil.

Category	VEC	Topic	Project Component	Phase	Mitigation
Aquatic Environment	**Surface Water Quality and Fish Habitat**		**Keewatinoow Converter Station**	**Construction**	Flow to downstream areas will be maintained at all times while diversions are in place
					All instream construction activities will be conducted in isolation from flowing water using a temporary diversion if necessary
					Existing local drainage will be maintained subsequent to un-named creek in-filling
					Erosion and sedimentation control measures will be in place before construction commences and will be maintained throughout the construction phase
					Surface erosion control measures such as hydroseeding, organic mulches, wood fibre, peat moss, wood chips/bark, brush matting, or the application of water may also be used at the discretion of the construction contractor
					To reduce dust caused by wind and construction traffic and potential deposition in aquatic environments, water or other wind erosion control methods will be applied to exposed soil during construction when necessary
					Riparian Buffers o Goose Creek – 30 m Reserve Zone o Nelson River – 30 m Reserve Zone o Creek Fifteen – 30 m Reserve Zone o Creek Fourteen – 15 m Reserve Zone o Unnamed Tributary – 15 m Reserve Zone.

Category	VEC	Topic	Project Component	Phase	Mitigation
Aquatic Environment	**Surface Water Quality and Fish Habitat**		**Northern Ground Electrodes**	**Construction**	DFO's Operational Statement for Isolated or Dry Open-Cut Stream Crossings is applicable for the installation of the ground electrode and will be implemented and adhered to
					No instream construction activities will be conducted between April 15 and July 15 as outlined in DFO's Manitoba In-water Construction Timing Windows for the Protection of Fish and Fish Habitat
					Turbid water generated from the isolated work site will be pumped away from the watercourse to a vegetated area, filter fabric dam or other acceptable area that will provide filtration and/or settling time prior to entering watercourses
					Diversions will be removed following completion of works and the site will be restored and all disturbed surfaces stabilized (i.e. re-vegetated).
					To prevent an accidental spill of coke into the aquatic environment, coke materials will be stored greater than 100 m from the ordinary high water mark
					Coke will be adequately contained and will be protected from wind and rain to prevent entry of fine particulates into streams through runoff or dust deposition.

Category	VEC	Topic	Project Component	Phase	Mitigation
Aquatic Environment	**Surface Water Quality and Fish Habitat**		**Northern Ground Electrodes**	**Construction**	Instream work will be conducted during favourable weather conditions and construction will be postponed under adverse weather (i.e., storm events), to minimize potential sediment introduction into the aquatic environment
					All instream construction activities will be conducted in isolation from flowing water using a temporary diversion
					Temporary diversions will be constructed and operated using the best management practices outlined in Manitoba Stream Crossing Guidelines for the Protection of Fish and Fish Habitat
					Flow to downstream areas will be maintained at all times while diversions are in place
					Coke will be rinsed or leached (aged) before use, to remove any metals loosely bound to its surface
			Transmission Line	**All**	Where possible, installation of lines over water courses and poorly drained habitats such as bogs and fens will be conducted under frozen conditions or aerially
					Where possible, transmission line approaches and crossings will be perpendicular to the watercourse and will avoid unstable features such as meander bends, braided streams and active floodplains
					All structures (temporary and permanent), will be placed above the ordinary high water mark (HWM)

Category	VEC	Topic	Project Component	Phase	Mitigation
Birds and Habitat	**Birds of Prey**		**HVdc Transmission and ac Collector Lines**	**Construction**	Buffers will be maintained within a 100 m radius of large stick nests from August 1 to March 31 to protect nest trees and maintain the integrity of nesting sites.
					Trees containing large stick nests will be left undisturbed until unoccupied to minimize mortality due to nest destruction during the nesting season, particularly when clearing the south-western portion of the right-of-way to avoid disturbing ferruginous hawk nests
					Artificial structures will be provided for nesting if unoccupied nests must be removed to reduce the loss of nesting habitat (i.e., but only if the raptor nest is not located adjacent to a sensitive site e.g., sharp-tailed grouse lek or species at risk habitat)
					Buffers within a 200 m radius of eagle and osprey nests will be maintained from April 1 to July 31 to protect from sensory disturbance during the breeding season
					Buffers will be maintained within a 100 m radius of eagle and osprey nests from August 1 to March 31 to protect nest trees and maintain the integrity of nesting sites
					Project activities during bird breeding and brood rearing will be restricted from April 1 to July 31 to reduce the risk of nest destruction and sensory disturbance

Category	VEC	Topic	Project Component	Phase	Mitigation
Birds and Habitat	**Birds of Prey**		**HVdc Transmission and ac Collector Lines**	**Construction**	Searches for ferruginous hawk, burrowing owl and short-eared owl nests will be undertaken prior to spring or summer construction if the timing of construction activity overlaps with sensitive time periods
					Setback distances for species at risk will be applied if the timing of construction activity overlaps with sensitive time periods (the recommended setback distance ferruginous hawk is 1,000 m, and is 500 m for burrowing owl and short-eared owl is and is to be applied to construction zones in southern Manitoba if they intersect with species at risk habitats and active breeding areas)
					Construction activity will be prohibited within 1,000 m of ferruginous hawk nests for 45 days following hatching of young to minimize disturbance (Environment Canada 2009)
				Operation	Setback distances for ferruginous hawk, burrowing owl, and short-eared owl (see Construction section) will be applied if the timing of vegetation management overlaps with sensitive time periods
					Maintenance activity will be prohibited within 1,000 m of ferruginous hawk nests for 45 days following hatching of young to minimize disturbance (Environment Canada 2009).
					Vegetation management activities will be avoided near large stick nests from April 1 to July 31 to prevent nest disturbance or abandonment during the nesting season

Category	VEC	Topic	Project Component	Phase	Mitigation
Birds and Habitat	**Birds of Prey**		**HVdc Transmission and ac Collector Lines**	**Operation**	Buffers will be maintained within a 50 m radius of active large stick nests when discovered
					Bird diverters will be placed at ESSs such as the Red River crossing to reduce the potential for collisions with wires
					Perch deterrents such as porcupine wire or triangles will be installed where raptor perching and nesting are problematic to discourage such activity, reducing the small chance of electrocution and possibly the need for removing nests
					Artificial nest structures will be installed in adjacent habitats where nests on transmission towers are removed, to reduce loss of nesting habitat (i.e., but only if the raptor nest is not located adjacent to a sensitive site e.g., sharp-tailed grouse lek or species at risk habitat)
					Shrubby vegetation will be maintained on the rights-of-way where possible to impede transportation via snowmobile and ATV and some foot traffic to reduce sensory disturbances arising from recreational use
					Searches for ferruginous hawk, burrowing owl and short-eared owl nests will be undertaken prior to spring or summer vegetation management if the timing of maintenance activity overlaps with sensitive time periods and locations

Category	VEC	Topic	Project Component	Phase	Mitigation
Birds and Habitat	**Birds of Prey**		**Keewatinoow Converter Station and Area**	**Construction**	Buffers within a 200 m radius of eagle and osprey nests will be maintained from April 1 to July 31 to protect from sensory disturbance during the breeding season
					Project clearing activities during bird breeding and brood rearing will be restricted months from April 1 to July 31, to reduce the risk of nest destruction and sensory disturbance.
					Artificial structures will be provided for nesting if unoccupied nests must be removed to reduce the loss of nesting habitat (i.e., but only if the raptor nest is not located adjacent to a sensitive site e.g., sharp-tailed grouse lek or species at risk habitat)
					Trees containing large stick nests will be left undisturbed until unoccupied to minimize mortality due to nest destruction during the nesting season
					Maintain buffers within a 100 m radius of eagle and osprey nests from August 1 to March 31 to protect nest trees maintain the integrity of nesting sites
	Colonial Waterbirds		**HVdc Transmission and ac Collector Lines**	**Construction**	Searches for least bittern nests will be undertaken prior to spring or summer construction if the timing of construction activity overlaps with sensitive time periods

Category	VEC	Topic	Project Component	Phase	Mitigation
Birds and Habitat	**Colonial Waterbirds**		**HVdc Transmission and ac Collector Lines**	**Construction**	Setback distances for least bittern will be applied if the timing of construction activity overlaps with sensitive time periods (the recommended setback distance for least bittern is 400 m and is to be applied to construction zones in southern Manitoba if they intersect with species at risk habitats and active breeding areas).
					Project activities will be restricted during bird breeding and brood rearing months from April 1 to July 31 to reduce the risk of nest destruction and sensory disturbance
					Vegetated buffers will be maintained in riparian areas to minimize the effect of habitat alteration on colonial waterbirds
					Buffers within a 200 m radius of heron colonies will be maintained from April 1 to July 31 to protect from sensory disturbance during the breeding season
					Buffers within a 100 m radius of heron colonies will be maintained from August 1 to March 31 to protect nest trees and maintain the integrity of nesting sites
				Operation	Colonies or other groups of birds will be avoided during helicopter use for line maintenance
					Searches for least bittern nests will be undertaken prior to spring or summer vegetation management if the timing of maintenance activity overlaps with sensitive time periods and locations

Category	VEC	Topic	Project Component	Phase	Mitigation
Birds and Habitat	**Colonial Waterbirds**		**HVdc Transmission and ac Collector Lines**	**Operation**	Setback distances for least bittern will be applied if the timing of vegetation management overlaps with sensitive time periods.
					Bird diverters will be placed at environmental sensitive sites such as wetlands to reduce the potential for collisions with wires
					Vegetation management will be limited in areas where least bittern could occur from April 1 to July 31to minimize the risk of nest destruction and sensory disturbance during the nesting season (see Bipole III Birds Technical Report for potential habitat and locations)
					Shrubby vegetation will be maintained on the rights-of-way where possible to impede transportation via snowmobiles, ATV and some foot traffic, to reduce access to the area and reduce sensory disturbances arising from recreational use
	Songbirds and Other Bird		**HVdc Transmission and ac Collector Lines**	**Construction**	Setback distances will be applied if the timing of construction activity overlaps with sensitive time periods (the recommended setback distance is 200 m for common nighthawk and whip-poor-will, 300 m for olive-sided flycatcher and Canada warbler, 400 m for loggerhead shrike, 250 m Sprague's pipit, 300m for golden winged warbler, and 100 m for rusty blackbirds), and is to be applied to construction zones in southern Manitoba if they intersect with species at risk habitats and active breeding areas

Category	VEC	Topic	Project Component	Phase	Mitigation
Birds and Habitat	**Songbirds and Other Bird**		**HVdc Transmission and ac Collector Lines**	**Construction**	Night-time activities will be avoided during the nesting season to minimize disturbance to common nighthawk and whip-poor-will.
					Project activities during bird breeding and brood rearing months will be restricted from April 1 to July 31, to reduce the risk of nest destruction and sensory disturbance
					Searches for nests will be undertaken prior to spring or summer construction if the timing of construction activity overlaps with sensitive time periods
				Operation	Night-time maintenance activities will be avoided in species at risk habitats during the nesting season to minimize disturbance to common nighthawk
					Where feasible, maintain golden-winged warbler habitat by selective basal spraying (Askins 1994) for vegetation management on the southern portion of the right-of-way.
					Shrubby vegetation will be maintained on the rights-of-way where possible to impede transportation via ATV and some foot traffic, to minimize access to the area and to reduce sensory disturbance (see Bipole III Birds Technical Report for potential habitat and locations)
					Shrubby vegetation will be maintained on the right-of-way where possible as potential olive-sided flycatcher and Canada warbler habitat

Category	VEC	Topic	Project Component	Phase	Mitigation
Birds and Habitat	**Songbirds and Other Bird**		**HVdc Transmission and ac Collector Lines**	**Operation**	Vegetation management will be limited in areas where common nighthawk, whip-poor- will could occur from April 1 to July 31 to minimize the risk of nest destruction and sensory disturbance during the nesting season (see Bipole III Birds Technical Report for potential habitat and locations)
					Searches for nests will be undertaken prior to spring or summer vegetation management if the timing of maintenance activity overlaps with sensitive time periods and locations
					Setback distances will be applied if the timing of vegetation management overlaps with sensitive time periods
			Keewatinoow Converter Station and Area	**Construction**	Project clearing activities during bird breeding and brood rearing months will be restricted from April 1 to July 31, to reduce the risk of nest destruction and sensory disturbance
	Upland Game Bird		**HVdc Transmission and ac Collector Lines**	**Construction**	Hunting and harvesting of wildlife by Project staff will be limited while working on Project sites and restrict firearms at construction sites to minimize the effect of harvesting on upland game bird mortality
					Setback distances will be applied around sharp-tailed grouse leks if discovered and if the timing of construction activity overlaps with sensitive time periods.

Category	VEC	Topic	Project Component	Phase	Mitigation
Birds and Habitat	**Upland Game Bird**		**HVdc Transmission and ac Collector Lines**	**Construction**	Project activities during bird breeding and brood rearing months will be restricted from April 1 to July 31 to reduce the risk of nest destruction and sensory disturbance
	Upland Game Birds		**HVdc Transmission and ac Collector Lines**	**Operation**	Bird diverters will be placed at environmental sensitive sites such as sharp-tailed grouse leks to reduce the potential for collisions with wires
					Perch deterrents such as porcupine wire or triangles on transmission towers will be installed near sharp-tailed grouse leks to reduce predation on sharp-tailed grouse by raptors.
					Access trails associated with the rights-of-way will be decommissioned to reduce access to the area by hunters and to decrease the local harvest of upland game birds
					Shrubby vegetation on the rights-of-way will be maintained where possible to impede transportation via snowmobile, ATV and some foot traffic to reduce access to the area by hunters and decrease the local harvest of and sensory disturbance to sharp-tailed and ruffed grouse
			Keewatinoow Converter Station and Area	**Construction**	A buffer of 500 m will be maintained around sharp-tailed grouse leks
					Hunting and harvesting of wildlife by Project staff will be limited while working on Project sites and restrict firearms at construction sites to minimize the effect of harvesting on sharp-tailed grouse mortality

Category	VEC	Topic	Project Component	Phase	Mitigation
Birds and Habitat	**Waterfowl and Waterbird**		**HVdc Transmission and ac Collector Lines**	**Construction**	Vegetated buffers will be maintained in riparian areas to minimize the effect of habitat alteration on waterfowl and waterbirds.
					Project activities during bird breeding and brood rearing months will be restricted from April 1 to July 31, to reduce the risk of nest destruction and sensory disturbance
					Hunting and harvesting of wildlife by Project staff will be limited while working on Project sites and restrict firearms at construction sites, minimizing the potential effect of harvesting on mallard mortality
					Searches for yellow rail nests will be undertaken prior to spring or summer construction if the timing of construction activity overlaps with sensitive time periods
					Setback distances will be applied for yellow rail nesting if the timing of construction activity overlaps with sensitive time periods (the recommended setback distance for yellow rail is 350 m and is to be applied to construction zones in southern Manitoba if they intersect with species at risk habitats and active breeding areas)
				Operation	Searches for yellow rail nests will be undertaken prior to spring or summer vegetation management if the timing of maintenance activity overlaps with sensitive time periods and locations

Category	VEC	Topic	Project Component	Phase	Mitigation
Birds and Habitat	**Waterfowl and Waterbird**		**HVdc Transmission and ac Collector Lines**	**Operation**	Setback distances will be applied if the timing of vegetation management overlaps with sensitive time periods.
					Access trails associated with the rights-of-way will be decommissioned to reduce access to the area by hunters and decrease the local harvest of waterfowl and other waterbirds
					Shrubby vegetation will be maintained on the rights-of-way where possible to impede transportation via ATV and some foot traffic, to reduce access to the area and to reduce sensory disturbances arising from recreational use
					Bird diverters will be placed at environmental sensitive sites such as wetlands to reduce the potential for collisions with wires
					Vegetation management activities will be avoided near wetlands from April 1 to July 31 on the length of the right-of-way, to prevent nest disturbance or abandonment
			Keewatinoow Converter Station and Area	**Construction**	Project clearing activities during bird breeding and brood rearing months will be restricted from April 1 to July 31, to reduce the risk of nest destruction and sensory disturbance
					Vegetated buffers will be maintained in riparian areas to minimize the effect of habitat alteration

Category	VEC	Topic	Project Component	Phase	Mitigation
Birds and Habitat	**Waterfowl and Waterbird**		**Keewatinoow Converter Station and Area**	**Construction**	Hunting and harvesting of wildlife by Project staff will be limited while working on Project sites and restrict firearms at construction sites, minimizing the potential effect of harvesting on mallard mortality
	Woodpecker		**HVdc Transmission and ac Collector Lines**	**Construction**	Dead standing trees will be retained where possible to reduce the loss of woodpecker nesting habitat
					Searches for red-headed woodpecker nests will be undertaken prior to spring or summer construction if the timing of construction activity overlaps with sensitive time periods
					Setback distances will be applied if the timing of construction activity overlaps with sensitive time periods (the recommended setback distance for red-headed woodpecker is 200 m and is to be applied to construction zones in southern Manitoba if they intersect with species at risk habitats and active breeding areas).
					Danger trees near the rights-of-way will be topped, rather than removed, to reduce the loss of adjacent woodpecker nesting habitat
					Clearing of trees with roost cavities will be limited to daylight hours, and preferably in fall, to minimize disruption of resident woodpeckers and retain shelter and nesting sites

Category	VEC	Topic	Project Component	Phase	Mitigation
Birds and Habitat	**Woodpecker**		**HVdc Transmission and ac Collector Lines**	**Operation**	Vegetation management will be limited in areas where red-headed woodpecker could occur from April 1 to July 31 to minimize the risk of nest destruction and sensory disturbance during the nesting season
					Setback distances for red-headed woodpeckers will be applied if the timing of vegetation management overlaps with sensitive time periods.
					Where feasible, danger trees near the rights-of-way topped, rather than removed, to reduce the potential loss of adjacent woodpecker nesting habitat
					Removal of danger trees with roost cavities will be limited to daylight hours, to minimize disruption of resident woodpeckers and retain shelter and nesting sites
					Removal of danger trees near the right-of-way will be prohibited during the spring nesting period to minimize nest destruction and sensory disturbance during the nesting season
					Shrubby vegetation will be maintained on the rights-of-way where possible to impede transportation via snowmobile and ATV, and some foot traffic, to reduce sensory disturbances arising from recreational use
					Searches for red-headed woodpecker nests will be undertaken prior to spring or summer vegetation management if the timing of maintenance activity overlaps with sensitive time periods and locations

Category	VEC	Topic	Project Component	Phase	Mitigation
Cultural and Heritage Resources	**Culture**		**HVdc Transmission and ac Collector Lines**	**All**	Further liaison with communities that have identified cultural concerns will occur to assist in identifying additional mitigation measures to be included in the EnvPPs. In addition, Manitoba Hydro anticipates opportunities for employing local Aboriginal people to assist in monitoring Project construction.
					The EnvPPs will contain heritage protection measures which will be developed in collaboration with First Nations, Metis and local interested parties for Project components that will ensure protection of Aboriginal and non-Aboriginal cultural interests.
					The Bipole III ATK process brought to light the valuable knowledge that exists within First Nation, Metis and other communities. In addition, through this process, as well as the Key Person Interviews and EACP, communities identified concerns and issues important to them regarding the Project. Apart from the other mitigation measures outlined in this section, Manitoba Hydro will continue to liaise with First Nations, the MMF and other communities to review concerns that arise about the Project and opportunities for cultural preservation occasioned by the Project.
					Manitoba Hydro anticipates that in the case of some First Nations and the MMF, the ongoing liaison and communications will occur through existing forums and protocols.

Category	VEC	Topic	Project Component	Phase	Mitigation
Cultural and Heritage Resources	**Culture**		**HVdc Transmission and ac Collector Lines**	**All**	Concerns regarding the effect of EMF on the natural environment and on humans were expressed through the Bipole III ATK process and the EACP (Chapter 5). Manitoba Hydro is exploring ways to share information about EMF in a meaningful way with Aboriginal people.
					The loss of the ability to conduct traditional activities such as trapping, hunting and fishing was noted in the ATK workshops and self-directed studies as potentially impacting culture. It must be understood however, that culture goes beyond these subsistence activities. As far as is practicable and in accordance with established laws and regulations overseen by Manitoba Conservation, Manitoba Hydro will respect and abide by local hunting protocols and cultural practices during construction and operation of the Project.
				Construction and Operation	EnvPPs for the construction and operations of the Project will include mitigation measures to minimize potential cultural effects.
	Heritage Resources		**HVdc Transmission and ac Collector Lines**	**Construction**	During construction, the Project Archaeologist will work with the Construction Supervisor and Site Manager to ensure that all in-field staff and workers are informed of and understand the process of implementing heritage protection measures and The Heritage Resources Act.

Category	VEC	Topic	Project Component	Phase	Mitigation
Cultural and Heritage Resources	**Heritage Resources**		**HVdc Transmission and ac Collector Lines**	**Construction and Operation**	EnvPPs for the construction and operation of the Project will include mitigation measures to minimize potential effects on known and unknown heritage resources. Manitoba Hydro anticipates employing local Aboriginal people to assist in monitoring Project construction. The heritage protection measures, which will be part of the EnvPPs, will be developed in collaboration with First Nations, Metis and local interested parties for Project components. They will ensure the protection of known and undiscovered heritage resource sites.
			Keewatinoow Converter Station	**Construction**	During construction, the Project Archaeologist will work with the Construction Supervisor and Site Manager to ensure that all in-field staff and workers are aware of the process of The Heritage Resources Act.
				Construction and Decommissioning	Preparation of heritage resources protective measures to be included in the EnvPPs to protect heritage resources that may be discovered during construction and construction decommissioning. The heritage resources protective measures will set out the provincial requirements, as well as any local cultural requirements for specific procedures. A process of immediate reporting of heritage finds, including found human remains will be established.

Category	VEC	Topic	Project Component	Phase	Mitigation
Cultural and Heritage Resources	**Heritage Resources**		**Keewatinoow Converter Station**	**Construction and Operation**	Preparation of construction and operations EnvPPs which will include mitigation measures to minimize potential cultural effects, and the discovery of known and undiscovered heritage resources. Liaison with Fox Lake Cree Nation and Tataskweyak Cree Nation will occur to assist in the development of the EnvPPs.
Groundwater	**Aquifer Productivity**		**Ground Electrodes and Lines**	**Operation**	Ground electrode irrigation will only be conducted during dry soil conditions and in amounts not exceeding what is required to maintain saturated soil conditions to prevent leaching
					The coke material will be tested (e.g., leachate analysis) prior to use for potential contaminants and the need for monitoring based on the results
			HVdc Transmission and ac Collector Lines	**Construction**	A qualified driller with appropriate experience will always be used for work in areas underlain by artesian aquifers
					Water levels will be monitored during drilling and foundation installation
					Emergency response plans will be in place for sealing/grouting and pumping in artesian areas
					Follow up inspections of installed foundations will be undertaken to monitor for excess moisture.
				Operation	No herbicides are used in clearing new rights-of-way

Category	VEC	Topic	Project Component	Phase	Mitigation
Groundwater	**Aquifer Productivity**		**HVdc Transmission and ac Collector Lines**	**Operation**	If herbicides are required to control vegetation growth, all applicable permits and provincial regulations will be followed
					On private lands, prior to any vegetation management work, landowners or appropriate authorities will be contacted to obtain the necessary permission
Land Use	**Agricultural Productivity**		**HVdc Transmission and ac Collector Lines**	**Construction**	In terms of potential induction because of the line paralleling metal fences, issues will be identified during the property acquisition phase and will be mitigated through proper grounding.
					Mitigation of potential effects such as security of fencing for livestock during construction will be assured by adherence to the construction EnvPP and by compliance with all relevant government legislation and regulations.

Category	VEC	Topic	Project Component	Phase	Mitigation
Land Use	**Agricultural Productivity**		**HVdc Transmission and ac Collector Lines**	**Construction**	Final decisions respecting the location of the transmission line towers and determination of compensation for the impact of the towers on agricultural operations are normally made during the course of property acquisition. This facilitates post-licensing completion of field surveys and detailed design activity necessary to confirm physical and technical considerations which may affect structure placement and design. This also enables Manitoba Hydro Property Department staff to discuss site-specific circumstances and related compensation or tower placement preferences with landowners. As noted above, wherever feasible, tower placement will be selected to minimize impacts on agricultural operations and productivity.
					Construction of the line in agricultural Manitoba during the summer months will have a greater impact on cultivated crop production as damage to crops and soils are more likely to occur. If construction activities result in physical damage (i.e., crop loss, ruts, etc.), Manitoba Hydro will pay compensation to the affected landowners or have physical damages restored.

Category	VEC	Topic	Project Component	Phase	Mitigation
Land Use	**Agricultural Productivity**		**HVdc Transmission and ac Collector Lines**	**Construction**	With respect to aerial spraying, crop spraying patterns can be affected by a variety of site-specific physical influences or obstructions ranging from the shape of a field under cultivation to the presence of rural residences or shelterbelts. The presence of a transmission line can restrict aerial spraying patterns depending on the location relative to a field or to other physical constraints. Manitoba Hydro considers impacts on aerial spraying operations on a site-specific basis where owners or operators can demonstrate that the presence of the line will adversely affect the cost and/or feasibility of aerial spraying or alternative ground applications.
					With respect to interference with irrigation systems, Manitoba Hydro considers impacts on a site-specific basis. Final decisions respecting locating the transmission line towers to minimize possible impacts are normally made during right-of-way acquisition. As with aerial spraying, this allows the completion of field surveys and detailed design activities to confirm physical and technical considerations that may affect structure placement. Manitoba Hydro Property Department staff will then be able to discuss tower placement with affected landowners including possible use of irrigation systems in the future. Consideration will be given to proper tower placement on all lands with irrigation potential as many parcels are being added to lands that are being irrigated every year.

Category	VEC	Topic	Project Component	Phase	Mitigation
Land Use	**Agricultural Productivity**		**HVdc Transmission and ac Collector Lines**	**Construction**	Construction of the Bipole III line, in terms of lower quality agricultural lands, was viewed by some during the EACP as having a potential positive effect as clearing of these lands will enhance production and yields. Clearing of bush and scrub in poorer quality agricultural lands may also be a positive effect in terms of livestock production.
					Manitoba Hydro compensates for impacts to agriculture through its Property Compensation program. Compensation for establishing easements across private property recognizes that residual impacts on agricultural practices will remain after mitigation measures have been applied.
				Operation	In terms of operations, Manitoba Hydro recognizes that some landowners and farm operators may continue to have concerns with the effects of the line on agricultural productivity. Any concerns will be responded to through regional and local customer service offices. Similarly, compensation will be paid for any physical damages that may occur during operations and maintenance of the line although these activities are generally scheduled to occur when crops are off the fields. Compensation would also be paid for any physical damages if Manitoba Hydro requires emergency access to the transmission line.
			Riel Converter Station	**Construction**	Manitoba Hydro will pay compensation to the property owner for the lands taken out of agricultural production by the ground electrode or the electrode line through its Landowner Compensation Policy

Category	VEC	Topic	Project Component	Phase	Mitigation
Land Use	**Infrastructure**		**HVdc Transmission and ac Collector Lines**	**Construction**	Local protocols and by-laws, including maintaining adequate buffers will be respected where possible.
					Agencies responsible for infrastructure crossed by the transmission line (i.e., HBR, CPR, CNR, GWWD, Trans Canada Pipeline, MIT, MTS) will be consulted. Confirmation of any necessary permits and approvals or design measures for construction will be made during the detailed design stage of the Project
					Infrastructure crossed will be identified on the Project-specific construction EnvPP
					The above agencies will also be notified with respect to construction schedules for the transmission lines to minimize disruption to operations
					Municipal authorities responsible for drains will be notified of clearing and construction schedules
				Operation	The locations of infrastructure crossed by the line will be identified in a Project specific operations and maintenance EnvPP.
					Agencies responsible for infrastructure crossed by the transmission line (i.e., HBR, CPR, CNR, GWWD, Trans Canada Pipeline, MIT, MTS) will be notified with respect to operations and maintenance schedules for the transmission line to minimize disruption to operations

Category	VEC	Topic	Project Component	Phase	Mitigation
Land Use	**Infrastructure**		**Keewatinoow Converter Station**	**Construction**	Where possible, local protocols and by-laws will be respected, including maintaining adequate buffers.
					Agencies responsible for infrastructure crossed by the transmission line (i.e., HBR, MIT) will be consulted to confirm if any necessary permits and approvals or design measures for construction will be made during the detailed design stage of the Project
					These agencies will also be notified with respect to construction schedules for the transmission lines to minimize disruption to operations
					The locations of infrastructure crossed will be identified in a Project-specific construction EnvPP
	Land Tenure and Residential Development		**HVdc Transmission and ac Collector Lines**	**Construction**	Municipal and local protocols and by-laws will generally be respected and appropriate methods will be applied to comply with regulatory standards during construction of the line
					Care will be taken so that construction activities/ equipment do not impact neighbouring properties.
					Manitoba Hydro has a compensation policy in place for landowners whose properties will be directly affected by the right-of-way and for any physical damages incurred during construction

Category	VEC	Topic	Project Component	Phase	Mitigation
Land Use	**Land Tenure and Residential Development**		**HVdc Transmission and ac Collector Lines**	**Construction**	A compensation policy of land acquisition is in place for those rural residences located on properties within 75 m of the centre of the right-of-way.
					The process of consulting property owners prior to construction (i.e., establishing easements with landowners and planning detailed transmission line design) will be used to address and preclude potential impacts on residences and property where possible.
					Subject to detailed engineering analysis, tower location (tower “spotting”) will be used, where feasible, to reduce potential negative effects, and location preferences identified in the course of the SSEA process (including more detailed preconstruction evaluation of the selected right-of-way) will be included in the engineering analysis and, where technically and economically feasible, incorporated in the structure placement decision
				Operation	Municipal and local protocols and by-laws will be generally respected and appropriate methods will be applied to comply with regulatory standards during operations of the line
					Care will be taken to ensure that operations activities/equipment do not impact neighbouring properties.

Category	VEC	Topic	Project Component	Phase	Mitigation
Land Use	**Land Tenure and Residential Development**		**HVdc Transmission and ac Collector Lines**	**Operation**	In the unlikely event that physical damages are incurred by a landowner during operations of the transmission line, damages are subject to compensation through Manitoba Hydro's existing compensation policies
			Riel Converter Station	**Operation**	Operations activities will be carried out in a manner that takes care to avoid any unnecessary disturbance and to protect the rural landscape surrounding work activity sites
					Activities will be conducted to prevent any unnecessary damage outside the required Project Site/Footprints and other disturbed/developed areas.
	Private Forestlands (Managed Private Woodlots, Shelterbelts)		**HVdc Transmission and ac Collector Lines**	**Construction**	Meetings will occur with each individual owner to discuss and negotiate mitigation measures (i.e., replanting shelterbelt) that are reflective of management objectives and investments during the easement negotiation phase Locations will be identified in the construction EnvPP for the line to avoid additional damage (e.g., errant construction equipment).
	Unique Terrain Features		**HVdc Transmission and ac Collector Lines**	**Construction**	Movement of equipment within unique terrain and soil features will be limited to minimize terrain disturbance
					Existing access routes should be utilized and machinery will not operate outside of the Project areas within unique terrain and soil features.

Category	VEC	Topic	Project Component	Phase	Mitigation
Land Use	**Unique Terrain Features**		**HVdc Transmission and ac Collector Lines**	**Construction**	Subject to detailed engineering analysis, tower location (tower “spotting”) will be used, where feasible, to reduce adverse effects
					Where technically and economically feasible structure placement decisions will incorporate more detailed preconstruction evaluation of the right-of-way as well as location preferences identified through discussions with Manitoba Conversation PAI representatives. To date, this request has been made with respect to potential issues relating to the salt spring in the Lake Winnipegosis Salt Flats Ecological Reserve. Similar discussions will be held respecting the Stephens Lake ASI
					Ongoing discussions will be held with Manitoba Conservation PAI representatives to provide Manitoba Hydro with the permanent right to access, use and maintain the right-of-way for the line
					Construction within enduring features will be conducted in the winter, under frozen conditions, to protect site-specific features, such as organic deposits
					No off-right-of-way activities, including construction of access trails or establishment of new borrow sources, will be conducted within any of the unique terrain and soil features crossed by the line
					Off-right-of-way activities will maintain a 100 m buffer distance from unique terrain and soil features identified in

Category	VEC	Topic	Project Component	Phase	Mitigation
Land Use	**Unique Terrain Features**		**HVdc Transmission and ac Collector Lines**	**Construction**	Excavated soils will be stored at designated work/spoil areas and will be fully replaced on the footprint of the excavation in the reverse order they were excavated
Mammals and Habitat	**American Marten**		**Borrow and Excavation Sites**	**Construction**	Manitoba Hydro will maintain access control onto the Project site and cooperate with Manitoba Conservation in measures that will protect excessive harvest in the area including signage and no hunting areas during construction to protect both workers and marten.
			Ground Electrodes and Lines	**Construction**	Manitoba Hydro will maintain access control onto the Project site and cooperate with Manitoba Conservation in measures that will protect excessive harvest in the area including signage and no hunting areas during construction to protect both workers and marten.
			HVdc Transmission and ac Collector Lines	**Operation**	Clearing of the right-of-way during winter months to lessen disturbance of female marten and their young.
			Keewatinoow Converter Station and Area	**Construction**	Manitoba Hydro will maintain access control for the Project site and cooperate with Manitoba Conservation in measures that will protect excessive harvest in the area including signage and no hunting areas during construction to protect both workers and marten.
				Operation	Construction will occur during winter within Project site to lessen disturbance of female marten and their young

Category	VEC	Topic	Project Component	Phase	Mitigation
Mammals and Habitat	**American Marten**		**Keewatinoow Converter Station and Area**	**Operation**	Manitoba Hydro will maintain access control onto the Project site and cooperate with Manitoba Conservation in measures that will protect excessive harvest in the area including signage and no hunting areas during construction to protect both workers and marten.
			Sites Access Roads	**Construction**	Long-term storage of cleared vegetation that may impede marten movement and increase the risk of forest fires will be avoided
					Recreational, public and vehicle access will be limited along the ROW to reduce sensory disturbances and minimize functional habitat loss
				Operation	The rights-of-way will be cleared during winter months to lessen disturbance of female marten and their young.
	Beaver		**Sites Access Roads**	**Operation**	Access management and provincial harvest management strategies that regulate trapping activities will continue to play an important role in maintaining beaver populations in the Local Study Area.
					Mitigation measures developed for the protection and management for riparian and aquatic habitats, specifically use of buffers, will aid in the protection of beaver habitat.
	Boreal Woodland Caribou		**HVdc Transmission and ac Collector Lines**	**Construction and Operation**	Timing of construction (winter) will mitigate sensory disturbance on females during calving and calf rearing in calving areas.

Category	VEC	Topic	Project Component	Phase	Mitigation
Mammals and Habitat	**Boreal Woodland Caribou**		**HVdc Transmission and ac Collector Lines**	**Construction and Operation**	Natural low tree cover in the Wabowden and Bog ranges will be maintained in core winter use areas and known and potential calving areas to maintain natural functional structure to encourage ongoing use by boreal woodland caribou. Boreal woodland caribou in the Wabowden area have demonstrated movement north and south of the FPR. Natural vegetation corridors for wildlife will be developed on the FPR in strategic locations through the maintenance of naturally low vegetations such as black spruce and tamarack. Strategic locations will be determined through the analysis of current telemetric data and in consultation with Manitoba Conservation.
					In the Wabowden range, robust and effective access control to the right-of-way from PTH #6 will be applied near core use areas. This will be based on site specific conditions and methods that halt or limit ATV and snowmobile traffic. Methods include gates (during construction) and the spreading of debris, ditching and trenching (post construction). Natural vegetation will be encouraged and where necessary planting of trees will occur to discourage future snowmobile and ATV access into core winter and summer use areas.
					Future maintenance along the right-of-way during operations will involve helicopter access and minimize snow packing in the Wabowden Range. In other areas development of Manitoba Hydro snowpack trails will be limited in core winter areas to minimize potential predator effects into core areas and potential illegal hunting activities.

Category	VEC	Topic	Project Component	Phase	Mitigation
Mammals and Habitat	**Boreal Woodland Caribou**		**HVdc Transmission and ac Collector Lines**	**Construction and Operation**	Limiting recreational use and travel by ATVs and snowmobiles along the right-of-way in the core winter use areas and known potential calving areas (Bipole III Caribou Technical Report 2011) will be encouraged to reduce sensory disturbances and minimize functional habitat loss.
					Ancillary access and other project footprints (staging areas) will be located to avoid core use areas and reduce potential disturbance, functional habitat loss, and temporary range fragmentation. Areas temporarily cleared for Project construction will be rehabilitated through the planting of native vegetation to facilitate a quick recovery to natural low growing vegetation that will provide security cover to encourage animal movement across the right-of-way in future.
					Hunting by Project personnel will be prohibited and firearms use restricted in work camps and areas which will minimize mortality.
					Long term monitoring of the boreal caribou ranges intersected by the Project will continue and include population monitoring, and assessment of recruitment and mortality. Data will be gathered through satellite collaring and assessments will be conducted on sensory disturbance and avoidance of the right-of-way and overall range fragmentation.

Category	VEC	Topic	Project Component	Phase	Mitigation
Mammals and Habitat	**Boreal Woodland Caribou**		**HVdc Transmission and ac Collector Lines**	**Construction and Operation**	Monitoring of wolves will be conducted in all boreal woodland caribou ranges intersecting the Project using aerial surveys and satellite tracking studies to determine use of the right-of-way and increased predation.
					Studies will be initiated on the effects of black bears and the potential effects of the right-of-way on bear activity and predation in calving areas near the right-of-way in the Wabowden range.
					Maintenance of low tree cover and the development of natural vegetation corridors will also minimize predator flow through these critical habitats and discourage human use of the right-of-way for snowmobile travel and other uses. Emphasis will be placed on the Wabowden range in core use areas natural vegetation corridors will also be implemented in The Bog range.
	Coastal and Barren Ground Caribou		**HVdc Transmission and ac Collector Lines**	**Construction and Operation**	Use along the right-of-way will be limited to reduce sensory disturbances and minimize functional habitat loss during caribou migration events which are infrequent and unpredictable.

Category	VEC	Topic	Project Component	Phase	Mitigation
Mammals and Habitat	**Coastal and Barren Ground Caribou**		**HVdc Transmission and ac Collector Lines**	**Construction and Operation**	Existing satellite collared animals from the Cape Churchill and Pen Island herds will be monitored during construction. Aerial surveys will be conducted to verify numbers and concentrations of animals that may or may not migrate into construction areas. Manitoba Hydro will maintain access control onto the right-of-way and cooperate with Manitoba Conservation in measures that will protect excessive harvest in the area including signage and no hunting areas during construction to protect both workers and migrating caribou. Manitoba Hydro will work cooperatively with Manitoba Conservation on access control through joint access management plan, hunting closures (Health Safety and Workplace Act) and hunter education or information initiatives with Manitoba Conservation to reduce the effects of overharvest and wastage.
					Hunting by project personnel will be prohibited and firearms restricted in work camps and associated areas to minimize caribou mortality.
	Moose		**All**	**All**	Manitoba Hydro will work cooperatively with Manitoba Conservation to improve access control through joint access management planning, hunting closures (Health Safety and Workplace Act) and hunter education or information initiatives to reduce the effects of overharvest and wastage.

Category	VEC	Topic	Project Component	Phase	Mitigation
Mammals and Habitat	**Moose**		**All**	**Construction**	Manitoba Hydro will maintain access control onto the Project site and cooperate with Manitoba Conservation in measures that will protect against excessive harvest in the area including signage and no hunting areas during construction to protect both workers and moose.
			Borrow and Excavation Sites	**Construction**	Clearing and construction activities in this area may occur during non-winter periods potentially resulting in minor displacement or disruption to calving and female moose. There are no population effects expected and the impact would be very minimal.
					Manitoba Hydro will maintain access control onto the Project site and cooperate with Manitoba Conservation in measures that will protect excessive harvest in the area including signage and no hunting areas during construction to protect both workers and moose.
					Manitoba Hydro will work cooperatively with Manitoba Conservation on access control through joint access management planning, hunting closures (Health Safety and Workplace Act) and hunter education or information initiatives to reduce the effects of overharvest and wastage.
					Hunting by Project personnel will be prohibited, firearms restricted in work camps and use of access roads for the Local Study Area by hunters limited during construction to minimize moose mortality.

Category	VEC	Topic	Project Component	Phase	Mitigation
Mammals and Habitat	**Moose**		**Ground Electrodes and Lines**	**Construction**	Clearing and construction activities in this area may occur during non-winter periods potentially resulting in minor displacement or disruption to calving and female moose. There are no population effects expected and the impact would be very minimal. Manitoba Hydro will maintain access control onto the Project site and cooperate with Manitoba Conservation in measures that will protect excessive harvest in the area including signage and no hunting areas during construction to protect both workers and moose.
					Manitoba Hydro will work cooperatively with Manitoba Conservation on access control through joint access management planning, hunting closures (Health Safety and Workplace Act) and hunter education or information initiatives with Manitoba Conservation to reduce the effects of overharvest and wastage.
					Hunting by Project personnel will be prohibited, firearms restricted in work camps and use of access roads for the Local Study Area by hunters during construction to minimize moose mortality
			HVdc Transmission and ac Collector Lines	**Operation**	In the northern areas disturbances from construction activities will occur during winter which will avoid the sensitive parturition period near potential moose calving sites such as bogs and wetlands.

Category	VEC	Topic	Project Component	Phase	Mitigation
Mammals and Habitat	**Moose**		**HVdc Transmission and ac Collector Lines**	**Operation**	Hunting by Project personnel will be prohibited and firearms restricted in work camps and use of access roads for the Local Study Area by hunters limited during construction to minimize moose mortality.
					Pre-construction surveys will be conducted to identify and locate mineral licks, and specific protection prescriptions developed based on site and environmental conditions.
			Keewatinoow Converter Station and Area	**Construction**	Clearing and construction activities in this area may occur during non-winter periods potentially resulting in minor displacement or disruption to calving and female moose. There are no population effects expected and the impact would be very minimal.
					Manitoba Hydro will maintain access control onto the Project site and cooperate with Manitoba Conservation in measures that will protect excessive harvest in the area including signage and no hunting areas during construction to protect both workers and moose.
					Manitoba Hydro will work cooperatively on with Manitoba Conservation on access control through joint access management plan, hunting closures (Health Safety and Workplace Act) and hunter education or information initiatives to reduce the effects of overharvest and wastage.
					Hunting by Project personnel will be prohibited and firearms restricted in work camps.

Category	VEC	Topic	Project Component	Phase	Mitigation
Mammals and Habitat	**Moose**		**Keewatinoow Converter Station and Area**	**Construction**	Access by hunters during construction will be limited on access roads for the Local study area to minimize moose mortality.
				Operation	Manitoba Hydro will maintain access control onto the Project site and cooperate with Manitoba Conservation in measures that will protect excessive harvest in the area including signage and no hunting areas during construction to protect both workers and moose.
					Access by hunters during construction will be limited on access roads for the Local study area to minimize moose mortality.
					In northern areas, disturbances from construction activities will occur during winter which will avoid the sensitive parturition period near potential moose calving sites such as bogs and wetlands.
					Clearing and construction activities in this area that occurs during non-winter periods may result in minor displacement or disruption to calving and female moose. There are no population effects expected and the impact would be very minimal.

Category	VEC	Topic	Project Component	Phase	Mitigation
Mammals and Habitat	**Moose**		**Keewatinoow Converter Station and Area**	**Operation**	Manitoba Hydro will work cooperatively on with Manitoba Conservation include access control through joint access management plan, hunting closures (Health Safety and Workplace Act) and hunter education or information initiatives to reduce the effects of overharvest and wastage. Hunting by Project personnel will be prohibited and firearms restricted in work camps.
					Preconstruction surveys will be conducted to identify and locate mineral licks. Specific prescriptions will be developed to protect them based on site and environmental conditions.
			Site Access Roads	**Operation**	In the northern areas disturbances from construction activities will occur during winter which will avoid the sensitive parturition period near potential moose calving sites such as bogs and wetlands.
					Pre-construction surveys will be completed to identify and locate mineral licks. Specific prescriptions will be developed based on site and environmental conditions.
					Hunting by Project personnel will be prohibited and firearms restricted in work camps and access to Project site by hunters during construction limited to minimize moose mortality.
	Wolverine		**Borrow and Excavation Sites**	**Construction**	Clearing in wolverine range will occur during winter when dens are non-active.

Category	VEC	Topic	Project Component	Phase	Mitigation
Mammals and Habitat	**Wolverine**		**Ground Electrodes and Lines**	**Construction**	Clearing in wolverine range will occur during winter when dens are non-active.
			Keewatinoow Converter Station and Area	**Operation**	Provincial harvest management strategies that regulate trapping activities to play an important role in monitoring changes and reducing effects to wolverine population numbers and status.
					Manitoba Hydro will maintain access control onto the Project site and cooperate with Manitoba Conservation in measures that will protect excessive harvest in the area including signage and no hunting areas during construction to protect both workers and wolverine.
Personal, Family and Community Life	**Human Health**		**HVdc Transmission and ac Collector Lines**	**Construction**	The construction EnvPP will contain measures that will reduce potential negative effects. As well, in built-up areas and other areas where noise and vibration may create undue stress, work will be limited to daylight hours.
					Participation in and support of on-going health and safety research on local, national and international levels
					Maintenance of active communications and provision of technical information to interested parties, including the public and agencies responsible for public and occupational health and the environment.
					Manitoba Hydro continues to conduct measurements of magnetic fields levels to the public on request.

Category	VEC	Topic	Project Component	Phase	Mitigation
Personal, Family and Community Life	**Human Health**		**HVdc Transmission and ac Collector**	**Construction**	Monitoring of worldwide research programs on EMFs
			Keewatinoow Converter Station	**Construction**	The converter station site will be watered, as required, to keep dust to a minimum
					The potential use of implosives for splicing conductors will require advance notice being given to stakeholders and local authorities (Fox Lake Cree Nation, Manitoba Conservation, the RCMP and the Town of Gillam) at the start of this activity at the converter station site.
					Discussions with Fox Lake Cree Nation regarding the Keewatinoow Converter Station and associated facilities will continue to be ongoing
				Operation	Manitoba Hydro will also post the sound levels that employees will encounter within the various areas of the site, to inform and remind workers of where the use of hearing protection is required
					In accordance with Workplace Safety and Health regulations, audiometric testing will be provided for these workers.
					Replacing, changing or eliminating equipment that contributes to excessive noise levels. This can include arranging equipment in a manner that blocks sound or increases the distance between a sound source and a worker

Category	VEC	Topic	Project Component	Phase	Mitigation
Personal, Family and Community Life	**Human Health**		**Keewatinoow Converter Station**	**Operation**	Changing a building or structure, which could include sound dampening of walls and installation of sound barriers
					Changing operations or work processes
					Equipment that will be installed for the project will be selected to minimize the potential to create noise exposure levels in excess of acceptable volume and intensity limitations. The level of audible sound inside buildings will not exceed 70 dBA in areas where personnel are permitted during operation
					Hearing protection will be provided by Manitoba Hydro and worn by all employees where workers may be exposed to high sound levels
			Riel Converter Station	**Construction**	In terms of noise, relevant by-laws and regulations will be observed where possible
					The use of implosives for splicing conductors will require advance notice being given to adjacent landowners, local authorities (RM of Springfield, Manitoba Conservation, the RCMP and the City of Winnipeg) at the start of this activity onsite and this will involve an air horn being sounded every time a charge is set off as a warning and the posting of signs to advise travelers on PR 207 of the construction and noise for the specific periods when using implodes

Category	VEC	Topic	Project Component	Phase	Mitigation
Personal, Family and Community Life	**Human Health**		**Riel Converter Station**	**Construction**	Dust control measures will be applied as required during construction.
				Operation	Earth fill berms will not be constructed where their presence would prove detrimental to the requirements for site drainage and are expected to be flat enough to facilitate grass cutting or, alternatively, planted with native grasses to minimize future maintenance
					Site access will be in accordance with MIT design requirements and designated onsite parking and material storage areas will be provided.
					Manitoba Hydro will also post the sound levels that employees will encounter within the various areas of the site, to inform and remind workers of where the use of hearing protection is required
					In accordance with Workplace Safety and Health regulations, audiometric testing will be provided for these workers.
					Site lighting design will focus on the site and minimize effects on neighbouring properties
					Earth fill berms and strategic plantings of trees will be placed, where possible, around the perimeter of the site where they do not pose a hazard to transmission lines, to provide a break in sight lines and serve as a noise barrier

Category	VEC	Topic	Project Component	Phase	Mitigation
Personal, Family and Community Life	**Human Health**		**Riel Converter Station**	**Operation**	Site design calls for the 230 kV and 500 kV switchyards to be set back from PR 207, Which will improve the aesthetics of the site and will take into consideration the technical and functional requirements of the site
					Tree plantings will be maintained at a safe distance from all overhead lines
					Replacing, changing or eliminating equipment that contributes to excessive noise levels. This can include arranging equipment in a manner that blocks sound or increases the distance between a sound source and a worker
					Changing a building or structure, which could include sound dampening of walls and installation of sound barriers
					Changing operations or work processes
					Hearing protection will be provided by Manitoba Hydro and worn by all employees where workers may be exposed to high sound levels
					Installing equipment for the project that will be selected to minimize the potential to create noise exposure levels in excess of acceptable volume and intensity limitations
					The level of audible sound inside buildings will not exceed 70 dB(A) in areas where personnel are permitted during operation

Category	VEC	Topic	Project Component	Phase	Mitigation
Personal, Family and Community Life	**Personal Safety**		**Keewatinoow Converter Station**	**Construction**	Regular communication will be maintained between Manitoba Hydro and Gillam RCMP regarding gang and drug-related issues at the construction camp.
	Public Safety		**HVdc Transmission and ac Collector Lines**	**Construction**	During the construction period, the right-of-way is considered an active construction site. Access to the right-of-way will be limited to those who need to be there and will be closely monitored as safety is a primary consideration.
					Anyone coming to the construction site will require an orientation and must check in at the start and end of every day.
					Appropriate protection measures may include the use of information signs and placement of warning markers to identify the rights-of-way.
				Operation	Protection measures will include signs regarding the dangers of high voltage transmission lines.
					Manitoba Hydro requires a formal application from user groups including industries for secondary use of a right-of-way.
					The application requires the identity of the applicant, purpose for use and identification of equipment to be used on the right-of-way.
					Manitoba Hydro can deny permission for the requested use for reasons such as safety

Category	VEC	Topic	Project Component	Phase	Mitigation
Personal, Family and Community Life	**Public Safety**		**HVdc Transmission and ac Collector Lines**	**Operation**	Manitoba Hydro undertakes programs designed to inform farmers about safe farm practices in the vicinity of high voltage transmission lines. Information will be made available to farm owners along the route for the Bipole III line.
			Keewatinoow Converter Station	**Construction**	Implementation of Cultural Awareness Training for workers that facilitates understanding about the effects of worker interactions of past projects and is clear about the expected behaviour of workers with respect to community residents
					Prohibiting public use of the access road and controlling entry and exit through a staffed security gate
					Operating a shuttle to transfer incoming and outgoing workers from and to Gillam in order to reduce the number of visits of construction workers to Gillam
					Having recreational facilities at the main camp
			Keewatinoow Converter Station and Associated Facilities	**Construction**	Appropriate protection measures may include the use of information signs and placement of warning markers to identify the rights-of-way.
					In terms of the construction powerline and ac collector lines, access to the right-of-way will be limited to those who need to be there and will be closely monitored as safety is a primary consideration.

Category	VEC	Topic	Project Component	Phase	Mitigation
Personal, Family and Community Life	**Public Safety**		**Keewatinoow Converter Station and Associated Facilities**	**Construction**	Anyone coming to the construction site will require an orientation and must check in at the start and end of every day.
Resource Use	**Commercial Fishing**		**HVdc Transmission and ac Collector Lines**	**Construction**	Where access becomes an issue to a community it will be managed through development of an Access Management Plan
				Operation	Where access becomes an issue to a community it will be managed through development of an Access Management Plan.
	Commercial Forestry		**HVdc Transmission and ac Collector Lines**	**Construction**	All high value forest sites within 500 m of the Project Site/Footprint will be considered ESSs and included in the construction, operations and maintenance, and decommissioning EnvPPs
					All high value forest sites located adjacent to the Project Site/Footprint will be safeguarded from damage (e.g. errant equipment) during all phases of the Project
					Where possible and practical, clearing and construction activities will be limited to frozen ground conditions
					The removal of stumps will be limited where possible
					As much as possible, Project-related activities will be limited to the Project Site/Footprint
					Where practical, all merchantable timber will be salvaged

Category	VEC	Topic	Project Component	Phase	Mitigation
Resource Use	**Commercial Forestry**		**HVdc Transmission and ac Collector Lines**	**Construction**	Where demand exists, an opportunity for local salvage of fuelwood will be provided to local communities
					Debris from clearing will not be pushed into standing timber
					Debris piles will be placed on mineral soil where possible and well removed from the right-of-way edge to avoid scorching adjacent vegetation
					Burn piles will be monitored to ensure all fires are extinguished prior to spring breakup
					Cleared woody debris will be disposed of to prevent infestations of sawyer beetles
					All elm wood will be immediately burnt, chipped or disposed of at designated disposal sites to prevent the spread of DED
					All equipment will be thoroughly washed before being transported to the clearing/construction site to minimize the spread of non-native plant species
					All hazard trees (on and off right-of-way) will be removed at the time of clearing and construction
					All disturbed sites that are not required for the operations and maintenance phase of the Project (e.g. borrow pits, access trails, marshalling yards) will be rehabilitated

Category	VEC	Topic	Project Component	Phase	Mitigation
Resource Use	**Commercial Forestry**		**HVdc Transmission and ac Collector Lines**	**Construction**	On-site supervision of all activities will be provided during construction
					As soon as is practical, all forest lands used temporarily (e.g. borrow pits, marshalling yards, access routes, etc.) during the construction phase of the Project will be rehabilitated and return them to the productive forest base
					Manitoba Hydro compensate Manitoba Conservation for the effects on productive forestlands as specified in the FDA& V Policy (Manitoba Conservation 2002)
				Operation	All equipment will be washed before being transported to the Project site to minimize the spread of non-native plant species
					Conduct regular patrols to identify and remove hazard trees to minimize the risk of forest fires.
					Where possible, operations activities will be conducted during frozen ground conditions
					Project related activities will be limited as much as possible to the Project Site/Footprint, including designated access routes

Category	VEC	Topic	Project Component	Phase	Mitigation
Resource Use	**Commercial Forestry**				Where the land withdrawal limit is exceeded, Manitoba must provide alternative sources of equal quality/cost resources and/or compensate the company for the withdrawals and any investments the company may have upon those lands
	Domestic Resource Use		**HVdc Transmission and ac Collector Lines**	**Construction**	Where demand exists, cleared timber that is not otherwise practically salvageable, will be made available to communities for fuelwood. Manitoba Conservation is responsible for timber allocation on Crown lands. Within those areas under FMLs the Licensee has the first right to all merchantable timber under license. Manitoba Hydro will endeavour to salvage merchantable where practical to do so
					Where the issue of increased access is important to a community (i.e., effect of increased access to areas deemed important for domestic resource use), Manitoba Hydro will work with directly affected communities to prepare Access Management Plans prior to construction of the line.
					Whenever possible, existing trails, roads and cut lines will be used as access routes
					Construction and site decommissioning activities in northern Manitoba will be carried out during the winter months

Category	VEC	Topic	Project Component	Phase	Mitigation
Resource Use	**Domestic Resource Use**		**HVdc Transmission and ac Collector Lines**	**Construction**	Where construction and site decommissioning activities do not occur during winter months, disturbances will be minimized in areas of plants used by Aboriginal people as identified through the ATK process
					Access controls adjacent to PTH 6 and other access points from main roads will be applied, including ditching and access road retirement
					Hunting and fishing by Project personnel will be prohibited, and firearms restricted in work camps
					Understory stratums will be maintained during construction and site decommissioning activities
					Manitoba Hydro will work with individual communities that have identified important resource use sites that are in close proximity to the Project Site/Footprint to minimize potential effects
				Operation	Manitoba Hydro will work with individual communities and resource users who have identified important sites that are in close proximity to the line regarding ways to reduce pressure on the resource base caused by operations

Category	VEC	Topic	Project Component	Phase	Mitigation
Resource Use	**Domestic Resource Use**		**HVdc Transmission and ac Collector Lines**	**Operation**	Where the issue of increased access is important to a community (i.e., effect of increased access to areas deemed important for domestic resource use), Manitoba Hydro will work with directly affected communities to prepare Access Management Plans prior to operation of the line.
					Herbicide use is discussed in Section 8.2.1.2. Given the above mitigation measures, operational effects to domestic resource use are anticipated to be negative, moderate in magnitude, Project Site/Local Study Area in geographic extent, medium-term in duration, and not considered significant.
					Existing access roads and trails will be used to the extent possible
					Maintenance activities will be carried out during the winter months to minimize surface damage, rutting and erosion
					Where maintenance activities do not occur during winter months, soil and vegetation disturbance will be minimized in areas of plants used by Aboriginal people as identified through the ATK process
					Understory stratums will be maintained during maintenance activities

Category	VEC	Topic	Project Component	Phase	Mitigation
Resource Use	**Domestic Resource Use**		**Keewatinoow Converter Station**	**Operation**	Development and implementation of the Keewatinoow Access Management Plan in conjunction with Fox Lake Cree Nation. This will allow existing resource users to access the Keewatinoow construction area as appropriate and safe
					Development and implementation of environmental reclamation and rehabilitation measures.
					Existing access roads and trails will be used to the extent possible
					Development and implementation of the Keewatinoow Access Management Plan for operations in conjunction with Fox Lake Cree Nation.
					Maintenance activities will be carried out during the winter months to minimize surface damage, rutting and erosion
					Understory stratums will be maintained during maintenance activities
					Keewatinoow camp rules will prevent Project personnel from having firearms on site and limit them from exiting the site to harvest resources
					Manitoba Hydro will work with Fox Lake Cree Nation to reduce pressure on the resource base

Category	VEC	Topic	Project Component	Phase	Mitigation
Resource Use	**Domestic Resource Use**		**Keewatinoow Converter Station**	**Operation**	Where maintenance activities do not occur during winter months, soil and vegetation disturbance will be minimized in areas of plants used by Aboriginal people
	Mining/Aggregates		**HVdc Transmission and ac Collector Lines**	**Construction**	In instances where a potential adverse effect exists with quarry or aggregate operations, additional possible mitigation measures will include placement of towers to lessen/avoid interference with operations (i.e., quarries, pits) at those locations
					Manitoba Hydro will consult with the affected stakeholders (operators) as part of the easement negotiation phase of the Project to avoid adverse interference from the transmission line with any future plans.
					Mineral claim and licence holders crossed by the final preferred route will be provided with information regarding clearing and construction schedules to minimize potential interference with exploration activities and Manitoba Hydro will work with mining interests and holders to address any outstanding issues
				Operation	Holders of mineral claims and licences crossed by the line will be provided with information regarding operations and maintenance schedules to minimize potential interference with exploration activities

Category	VEC	Topic	Project Component	Phase	Mitigation
Resource Use	**Mining/Aggregates**		**HVdc Transmission and ac Collector Lines**	**Operation**	Quarry operators in proximity to the line will be provided information regarding operations and maintenance schedules to minimize potential interference with operations.
	Recreation and Tourism		**HVdc Transmission and ac Collector Lines**	**Construction**	If site-specific issues of concern arise, mitigation may be possible through minor route adjustments or maintaining a buffer of trees between a site/trail and the transmission line right-of-way
					Where access becomes an issue to a community, it will be managed through development of an Access Management Plan.
					Information signs and the placement of warning markers will be used to identify the right-of-way where it intersects with a recreational trail
					Lodge owners and recreational resource users, including Crown land encumbrance holders, and snowmobile associations will be notified in advance as to the schedule for clearing and construction
					Care will be taken to protect the natural landscape surrounding work activity sites
					Construction activities will be conducted to prevent any unnecessary damage outside the required rights-of-way and other disturbed/developed areas (e.g., borrow pits)

Category	VEC	Topic	Project Component	Phase	Mitigation
Resource Use	**Recreation and Tourism**		**HVdc Transmission and ac Collector Lines**	**Operation**	Information signs and the placement of warning markers will be used to identify the right-of-way where it intersects with a recreational trail
					Care will be taken to protect the natural landscape surrounding work activities.
					Work permits from Manitoba Conservation will be obtained for all project activities occurring on provincial Crown lands
					Prior to operation and maintenance activities, the snowmobile associations will be notified of the proposed work schedules
	Trapping		**HVdc Transmission and ac Collector Lines**	**Construction**	Prior to construction activities, registered trapline holders will be notified as to the schedule for construction activities
					Trapline holders will be notified to remove trapping equipment as required.

Category	VEC	Topic	Project Component	Phase	Mitigation
Resource Use	**Trapping**		**HVdc Transmission and ac Collector Lines**	**Construction**	Registered trapline holders were contacted through the EACP for the Project. Construction activities may temporarily displace wildlife from areas in proximity to the right-of-way. Manitoba Hydro has a Trapper's Notification/Compensation Policy in place for registered trapline holders (www.hydro.mb.ca). In terms of compensation, the program is intended to provide compensation to holders of registered traplines whose lines are affected by the construction of transmission facilities 115 kV or greater. Prior to construction, a compensation amount will be determined with eligible holders of registered traplines for the disturbance during the period of construction. Compensation would also be paid for any damage to equipment, buildings and trails uses for trapping during construction activities.
			Keewatinoow Converter Station	**Construction**	Trapline holders will be notified to remove trapping equipment as required.
					Prior to construction activities, registered trapline holders will be notified as to the schedule for clearing and construction activities

Category	VEC	Topic	Project Component	Phase	Mitigation
Resource Use	**Trapping**		**Keewatinoow Converter Station**	**Construction**	The routes for the 230 kV ac northern collector lines and construction powerline will cross two registered traplines in the Split Lake RMA and one in the Fox Lake RMA. Under Manitoba Hydro's Trapper's Notification/Compensation Policy, compensation will be paid to the registered trapline holder for the period of construction. Compensation would also be paid for any damage to equipment, buildings and trails uses for trapping during construction activities.
					Ongoing discussions with directly affected registered trapline holders will continue to establish mutually acceptable measures to deal with any issues
	Wildrice Harvesting		**HVdc Transmission and ac Collector Lines**	**Construction**	Where access becomes an issue to a community it will be managed through development of an Access Management Plan.
					To mitigate effects to wild rice harvesting and ensure Project-related impacts are minimal, applicable legislation, regulations and guidelines will be adhered to.
				Operation	Where access becomes an issue to a community it will be managed through development of an Access Management Plan.
Services	**Community Services**		**Keewatinoow Converter Station**	**Construction**	Camp behaviour and disciplinary policy will be established to discourage workers from engaging in inappropriate behaviours

Category	VEC	Topic	Project Component	Phase	Mitigation
Services	**Community Services**		**Keewatinoow Converter Station**	**Construction**	Rigorous enforcement for impaired driving will be implemented between the construction camp and Gillam, carried out in coordination with security personnel at the camp access gate.
					A coordination system will be established between the camp, Gillam, and other emergency services in the area (e.g., Henday Converter Station).
					Workers will be provided transportation to and from the construction site to avoid the use personal vehicles (reducing Visits to Gillam by workers during their leisure time during both the 'start up' and main camp stage)
					Training camp security personnel will deal with issues of impaired driving and intoxication
					Ambulance services and a fire truck will be provided at the 'start-up' camp
	Travel and Transportation		**Keewatinoow Converter Station**	**Construction**	Controlling entry and exit through a staffed security gate
					Operating a shuttle to transfer incoming and outgoing workers from and to Gillam.
					A regular charter service (weekly, bi-weekly or other regular time) will be implemented to accommodate the workforce especially during peak construction periods to ensure that scheduled flights are still available for local residents.

Category	VEC	Topic	Project Component	Phase	Mitigation
Services	**Travel and Transportation**		**Keewatinoow Converter Station**	**Construction**	Level railway crossing safety would be ensured through the presence of flagpersons and appropriate warning devices
					All related movements will be subject to regulations governing load restrictions and transport of dangerous goods.
					Ongoing awareness initiatives will be issued to remind workers of the ramifications of impaired driving.
					Ongoing awareness initiatives will be issued to remind workers of safe-driving habits
					Traffic signage along the access road.
					Tracking of incidents involved in impaired driving, at the security gate and through RCMP incident reports
					Implementation of a traffic monitoring program.
					Having a lounge and recreational facilities at the main camp
					Restricted use of company vehicles for leisure activities
					Length of shifts and shift rotation will serve to limit worker trips to Gillam
					Workers will be prohibited from using Manitoba Hydro vehicles to travel to Gillam for recreational purposes

Category	VEC	Topic	Project Component	Phase	Mitigation
Services	**Travel and Transportation**		**Keewatinoow Converter Station**	**Construction**	Manitoba Hydro will consult with appropriate agencies and government authorities (e.g., MIT, HBR, and the Town of Gillam) and will comply with all relevant government regulations and by-laws
					Manitoba Hydro will notify the appropriate agencies and infrastructure operators as to the schedule for equipment and material deliveries during the period of construction
					Rigorous enforcement of consequences at camp for incidences of impaired driving
					Ongoing monitoring and communication of road and weather conditions will be carried out at the construction camp
					Tracking of vehicles going through the access gate including type of traffic (worker, truck, etc.)
					Tracking of number of vehicle accidents that occur as construction proceeds, through coordination with the Gillam RCMP
			Riel Converter Station	**Construction**	All related movements will be subject to regulations governing load restrictions and transport of dangerous goods.
					Level railway crossing safety will be facilitated through the presence of flagpersons and appropriate warning devices

Category	VEC	Topic	Project Component	Phase	Mitigation
Services	**Travel and Transportation**		**Riel Converter Station**	**Construction**	Manitoba Hydro will notify the appropriate agencies and infrastructure operators as to the schedule for equipment and material deliveries during the period of construction
Terrain and Soils	**Soil productivity**		**Borrow Areas Keewatinoow**	**All**	Borrow pits will be re-vegetated by seeding or promotion of natural encroachment of native species.
					Borrow areas and excavated material placement areas will be sited in upland areas with well-drained, mineral soils, where possible
					Topsoil (i.e., mineral or organic) will be stripped and temporarily stockpiled prior to borrow material excavation and placement of excavated materials
					Borrow materials will not be excavated below the upper surface of the water table
					Runoff will be directed away from disturbed areas (e.g., quarry walls, access routes) with control measures prior to excavation
					Borrow sites will be contoured following excavation to ensure functional site drainage
					Topsoil will be replaced following completion of construction activities
			Ground electrodes	**Construction**	Ground electrodes will be constructed during winter, to target frozen or dry ground conditions, where possible

Category	VEC	Topic	Project Component	Phase	Mitigation
Terrain and Soils	**Soil productivity**		**Ground electrodes**	**Construction**	Existing access routes will be used, where possible, and any new access routes, if required will be planned in advance of mobilization
					The southern ground electrode site will be graded, disced or deep-ploughed following construction to alleviate compaction and remove ruts caused by rubbertired and tracked vehicles after construction to restore agricultural productivity or grassland.
					Ploughed or compacted snow will be placed over the sites to facilitate deeper frost penetration (northern electrode site only)
					Topsoil will be stripped and stockpiled at site prior to excavation for ground electrode installation for replacement following completion of construction activities
	Soil productivity		**HVdc Transmission and ac Collector Lines**	**Construction**	Vegetation establishment in areas not identified as requiring special treatment will occur naturally or through annual cropping
					Where required, the right-of-way should be graded, disced or deep-ploughed to alleviate compaction and remove ruts caused by rubber-tired and tracked vehicles after construction to restore soil productivity.

Category	VEC	Topic	Project Component	Phase	Mitigation
Terrain and Soils	**Soil productivity**		**HVdc Transmission and ac Collector Lines**	**Construction**	Construction activities in southern Manitoba will be undertaken , where possible, under dry conditions in high compaction risk areas (Bipole III Terrain and Soils Technical Report) and moist conditions in high to severe wind erosion risk areas, where possible
					Snow will be ploughed or compacted to facilitate deeper frost penetration
					Access routes will be located along existing traffic routes where possible and will be determined in advance. Vehicles should be restricted to those routes
					Low ground-pressure vehicles (i.e., wide tracked machinery) will be used, particularly in areas of high compaction risk, where possible
					Topsoil will be stripped and stockpiled separately from subsoil, based on visual assessment of colour change, prior to excavation or establishment of temporary workspaces
					In areas of known salinity, excavated soils will be stored on liners or at designated work/spoil areas, where possible
					Runoff will be directed away from disturbed areas to prevent further site degradation where necessary
					In agricultural land, at least 300 mm of topsoil will be spread on any excavation site

Category	VEC	Topic	Project Component	Phase	Mitigation
Terrain and Soils	**Soil productivity**		**HVdc Transmission and ac Collector Lines**	**Operation**	Herbicides will be applied according to standard Manitoba Hydro practices,
					Inspection and maintenance activities will be conducted during frozen and dry ground conditions, where feasible
			Keewatinoow Converter Station and Area	**Construction and Operation**	After construction the site will be remediated by measures such as, replacement of topsoil and recontouring.
					Topsoil or surface organic soil will be stripped and stockpiled prior to site grading for use in reclamation of temporary work spaces, where possible
	Soil temperature		**All**	**All**	Reducing the extent of clearing required by utilizing existing access routes and siting temporary work areas in natural openings
					Retaining ground cover and allowing for natural vegetation establishment, where appropriate.
	Terrain stability		**Borrow Areas Keewatinoow**	**All**	Access trail grades should not exceed 12%
					Excavations will be backfilled or re-sloped to a stable profile in accordance with site reclamation plans.
					Existing permitted borrow sources will be utilized, to the extent possible, especially in regions of permafrost-affected soils

Category	VEC	Topic	Project Component	Phase	Mitigation
Terrain and Soils	**Terrain stability**		**Borrow Areas Keewatinoow**	**All**	Borrow pits will not be located within 100 m of steep slopes, where possible
			HVdc Transmission and ac Collector Lines	**Construction**	The removal of natural vegetation on sloped terrain, particularly adjacent to waterways, will be avoided to the greatest extent possible
					Where vegetation is removed from sloped terrain, the area will be replanted with deep-rooted shrubs, such as willow, where feasible to prevent slope degradation
					Stripping through organic vegetative layers will be avoided to the extent possible on permafrost-affected soils. The top layer of organic soil and ground vegetation will be retained to prevent or minimize disturbance, where practical and feasible
					Snow will be graded and compacted in right-of-way work areas and along access routes, where possible or required for safety, to prevent thaw and increase frost penetration
					Drainage will not be altered to concentrate flows, especially in sloped terrain.
					Slope undercutting and slope modification at angles greater than 30° will be avoided, to prevent sliding or slumping and any slopes over-steepened beyond 30° will be graded to reduce the slope

Category	VEC	Topic	Project Component	Phase	Mitigation
Terrain and Soils	**Terrain stability**		**HVdc Transmission and ac Collector Lines**	**Construction**	Diversion berms of compacted native soils or logs will be used on moderate and steep slopes (i.e., greater than 15-20%) to divert water away from the slope after construction. Berms will be spaced 45 m or less apart and skewed with a downstream gradient of 5-10% and end in natural vegetation
					Borrow pits will not be located within 100 m of identified steep slopes and/or unstable slopes, to prevent initiation or acceleration of instability due to blasting
					The introduction of water to slopes will be limited to the greatest extent possible
	Terrain Stability		**Ground electrodes**	**All**	The burning of slash from clearing on adjacent permafrost soils will be avoided to prevent melting in order to minimize the effect of construction of the northern ground electrode and electrode line on terrain stability.
			Keewatinoow	**All**	The burning of slash from clearing on adjacent permafrost soils will be avoided to prevent melting
					Site drainage will be directed through existing drainage channels or pathways to prevent degradation of additional permafrost materials.
		Herbicide residues	**HVdc Transmission and ac Collector Lines**	**Operation**	Manitoba Hydro completes annual reporting of the product and quantity of herbicides, as well as the locations of application to Manitoba Conservation in accordance with Pesticide Use Permits issued pursuant to the provisions of The (Manitoba) Environment Act.

Category	VEC	Topic	Project Component	Phase	Mitigation
Terrain and Soils		**Soil mixing**	**All**	**All**	Constructing during dry or frozen ground conditions
					Stripping and stockpiling topsoil and subsoil separately for use in site rehabilitation
					Using liners under stockpiles of excavated saline subsoils and filling excavations with suitable material
					Mineral topsoils and surficial organic materials should be stripped separately from subsoils, segregated, and stockpiled for later use in backfilling, contouring and rehabilitation. Soils should be replaced in the reverse order to which they were removed. Where problem subsoils (e.g., saline, gravelly, stony) are encountered in agricultural landscapes, three-lift soil handling will be used to segregate the problem subsoils from higher quality subsoils. Once replaced, soils will be compacted similar to pre-disturbed condition.
Terrestrial Ecosystems and Vegetation	**Native Grasslands/Prairie Areas**		**HVdc Transmission and ac Collector Lines**	**Construction**	Existing access roads and trails will be used to the extent possible.
					Construction and site decommissioning activities will be carried out during the winter months to minimize surface damage, rutting and erosion Where activities do not occur during winter months, soil and vegetation disturbance will be minimized in the dry upland prairie areas

Category	VEC	Topic	Project Component	Phase	Mitigation
Terrestrial Ecosystems and Vegetation	**Native Grasslands/Prairie Areas**		**HVdc Transmission and ac Collector Lines**	**Construction**	Where disturbance has occurred in areas prone to increased erosion, vegetation will be re-established using native species appropriate for the site
					Trees will be removed by low ground disturbance methods
					Where trees do not pose a threat to the operations of the transmission line, clearing will be reduced in these areas
				Operation	Existing access roads and trails will be used to the extent possible
					Species of concern will be identified/marked and monitored, and the use of herbicides will be restricted in these areas.
					Routine maintenance activities will be carried out during the winter months to minimize surface damage, rutting and erosion
					Where maintenance activities do not occur during winter months, soil and vegetation disturbance will be minimized in the dry upland prairie areas
					Where disturbance has occurred, vegetation will be re-established using native species appropriate for the site
	Plant Species and Communities of Conservation Concern		**HVdc Transmission and ac Collector Lines**	**Construction**	Existing access roads and trails will be used to the extent possible

Category	VEC	Topic	Project Component	Phase	Mitigation
Terrestrial Ecosystems and Vegetation	**Plant Species and Communities of Conservation Concern**		**HVdc Transmission and ac Collector Lines**	**Construction**	Locations of species of conservation concern will be clearly marked with flagging tape prior to construction and site decommissioning activities.
					Construction and site decommissioning activities will be carried out during the winter months when effects to plant species are minimized
					Where activities do not occur over winter months, disturbance to the shrub and herb layers will be minimized where species of conservation concern have been observed
				Operation	Existing access roads and trails will be used to the extent possible
					Locations of species of conservation concern will be clearly marked with flagging tape prior to maintenance activities
					In areas where species of conservation concern have been identified, a non-herbicide method will be used, such as hand cutting, mechanical cutting or winter shearing.
					Routine maintenance activities will be carried out during the winter months when effects to plant species are minimized

Category	VEC	Topic	Project Component	Phase	Mitigation
Terrestrial Ecosystems and Vegetation	**Plant Species and Communities of Conservation Concern**		**HVdc Transmission and ac Collector Lines**	**Operation**	Where maintenance activities do not occur over winter months, disturbances to the shrub and herb layers will be minimized where species of conservation concern have been observed
		Access	**HVdc Transmission and ac Collector Lines**	**Construction**	The access management plan(s) to be developed for the Project, will consider means to limit access to areas deemed important for plant harvesting by an Aboriginal community
		Dust	**All**	**Construction, maintenance and decommissioning**	Construction, maintenance and decommissioning activities fro many areas will be carried out during the winter months
					Water or approved dust suppression agents that will not negatively affect surrounding vegetation will be used for dust abatement where and when necessary
		Herbicides	**HVdc Transmission and ac Collector Lines**	**Maintenance**	On private lands, prior to any vegetation management work, landowners or appropriate authorities will be contacted to obtain the necessary permission
					Clearing of the transmission line right-of-way and other sites, will employ a nonherbicide method such as hand cutting, mechanical cutting or winter shearing
					If herbicides are required to control vegetation growth, all applicable permits and provincial regulations (The Noxious Weed Act) will be followed

Category	VEC	Topic	Project Component	Phase	Mitigation
Terrestrial Ecosystems and Vegetation		**Herbicides**	**HVdc Transmission and ac Collector Lines**	**Maintenance**	On Crown Lands the necessary work permit(s) will be obtained, as required under The Manitoba Forest Act
					Species of concern will be monitored and identified/marked and the use of herbicides restricted in these areas
		Invasive and Non-native Plants	**All**	**Construction, maintenance and decommissioning**	Construction, maintenance and decommissioning activities will be carried out during the winter months where possible
					All equipment will be washed and inspected prior to working in new sites to reduce the spread of introduced species
					Construction materials (i.e., gravel) will be taken from clean sources and ground cover materials will be weed free prior to use
					The access management plan to be developed for the project, will consider means to limit the introduction of non-native plants during clearing and construction of the proposed transmission lines
		Modification of Vegetation Composition	**All**	**Construction**	Construction activities will be carried out during the winter months to minimize removal of shrub and understory species
					Grubbing will be minimized within the right-of-way to reduce root damage except at foundation sites.

Category	VEC	Topic	Project Component	Phase	Mitigation
Terrestrial Ecosystems and Vegetation		**Non-VEC plants and Plant Communities**	**All**	**All**	Existing access roads and trails will be used to the extent possible
					Tree removal will be confined within the limits of the right-of-way, with the exception of danger trees located outside the right-of-way that can affect transmission lines
					Where construction activities do not occur over winter months, construction mats will be considered for use where wetlands may be affected
					Where transmission structures will be sited in areas of increased erosion potential, planting or seeding these areas with native species will occur
					During construction, measures will be implemented to manage storm water runoff to reduce the potential for erosion
					Clearing and construction activities will be carried out during the winter months to minimize the effect on understory species and to minimize surface damage, rutting and erosion
					Where activities, do not occur during winter months, soil and vegetation disturbance will be minimized
					Where transmission structures will be sited in areas of increased erosion potential, planting or seeding these areas with native species will occur

Category	VEC	Topic	Project Component	Phase	Mitigation
Terrestrial Ecosystems and Vegetation		**Non-VEC plants and Plant Communities**	**All**	**All**	Where disturbance has occurred in areas of increased erosion potential vegetation will be re-established using native species appropriate for the site (i.e., prairie habitat)
					Tree removal will be confined within the limits of other project component sites
					Trees will be felled into the right-of-way and other project component sites so as not to damage existing vegetation along right-of-way or other project component boundaries
					A minimum vegetation (i.e., trees and shrubs) buffer width of 30 m of the high water mark will be maintained for waterbodies such as lakes, ponds and streams
					Where a buffer zone will be disrupted, clearing, construction, maintenance and decommissioning activities will occur during the winter months and activities will be minimized within the buffer zone
					Where riparian areas are disrupted during clearing, construction, maintenance or decommissioning activities, a revegetation plan will be developed to re-establish vegetation where required
					In wetlands, clearing, construction, maintenance and decommissioning activities will be carried out during the winter months

Category	VEC	Topic	Project Component	Phase	Mitigation
Terrestrial Ecosystems and Vegetation		**Vegetation Diversity**	**HVdc Transmission and ac Collector Lines**	**Construction**	Construction activities will be carried out during the winter months when effects to plant species are minimized
					Grubbing will be minimized within the right-of-way to reduce root damage except at foundation sites
					Native plant species will be used for revegetation of disturbed areas with increased erosion potential or in areas where vegetation has been completely removed, and will focus on the development of stable plant communities rather than the establishment of a few species
		Wildfire Risks	**HVdc Transmission and ac Collector Lines**	**Construction and Maintenance**	The removal of slash and other tree maintenance activities will be scheduled to avoid the forest fire season, and burning should occur in the winter months
					Slash will be cut, piled, burned or disposed of as specified in the Manitoba Conservation work permits
					Where practical, slash piles will be located on sites with mineral soils
					Slash piles will be placed away from the right-of-way edges to reduce the potential for scorching of standing vegetation
					All fires must be completely extinguished after burning of slash and burn piles will be monitored to confirm that hotspots are not present

Category	VEC	Topic	Project Component	Phase	Mitigation
Terrestrial Invertebrates	**Ottoe and Uncas Skippers**		**HVdc Transmission and ac Collector Lines**	**Construction**	Where polygons plus associated buffers span greater than the distance between two towers, site-specific summer field surveys will be undertaken in sandy-soil habitat polygons prior to permanent tower placements.
					Suitable habitat will be avoided during installation of permanent towers, where feasible
					Suitable habitat patches will be avoided, where feasible
					A 30 m vegetation buffer will be maintained around sandy-soil prairie habitat where intercepted by the Project right-of-way, in which disturbance, vegetation removal, and vehicular traffic is to be limited
					Where removal of high-growth vegetation is required in sandy-soil prairie habitat and associated buffer, it is recommended that methods be used that minimize ground disturbance
Economy	**Economic Opportunities**		**HVdc Transmission and ac Collector Lines**	**Construction**	Manitoba Hydro will pay compensation for crop damages in agricultural Manitoba if summer construction is unavoidable.
					One rural residence is located within 75 m of the route for the Bipole III line. In this instance, Manitoba Hydro will offer compensation in terms of a buy-out should the owners choose to relocate.

Category	VEC	Topic	Project Component	Phase	Mitigation
Personal Family and Community Life (2)	**Public Safety**		**Keewatinoow Converter Station and Associated Facilities**	**Construction**	Mitigation measures include preventative measures at the camp, mechanisms to assist people in coping should negative effects arise as well as overall coordination and discussion across all projects involving Manitoba Hydro in the vicinity of Gillam to address worker interaction issues.
					Operation of a shuttle to transfer incoming and outgoing workers between Gillam and Thompson airports and the site
					Establishment of a camp committee to oversee implementation of consequences of inappropriate behaviour by workers in camp (part of Camp Rules).
					Discussions will begin prior to the start of construction among Manitoba Hydro, the Town of Gillam, and FLCN to determine the best mechanism for tracking and addressing worker interaction issues and concerns across all of Manitoba Hydro's proposed projects in the vicinity of Gillam.
					Ongoing dialogue between Manitoba Hydro and the Gillam RCMP during the construction phase will also assist in identifying whether worker interaction is an issue. It is anticipated that local justice and social agencies will be involved in these discussions, where appropriate, to gather data and to participate in the development of suitable mitigation measures.

Category	VEC	Topic	Project Component	Phase	Mitigation
Personal Family and Community Life (2)	**Public Safety**		**Keewatinoow Converter Station and Associated Facilities**	**Construction**	In addition, steps are being taken to address the issue of worker interaction with relevant stakeholders across all of Manitoba Hydro's proposed projects and activities in the vicinity of Gillam, rather than on a project by project basis. This coordinated approach provides greater certainty that the issue will be addressed in an effective and timely manner.
					Given the uncertainty that such Project effects can be completely mitigated, Manitoba Hydro will undertake socio-economic monitoring to assess whether additional measures will be necessary to address problems.
					Cross-cultural training for all construction workers including expectations for appropriate behaviour when visiting communities
					A lounge and recreational facilities at the main camp to encourage workers to stay on site during their leisure hours
					Restriction of unauthorized public visits to the construction camp and associated facilities
					Discouraging non-northern workers from bringing their personal vehicles to site
					Restriction of the use of company vehicles for personal use

Category	VEC	Topic	Project Component	Phase	Mitigation
Personal Family and Community Life (2)	**Public Safety**		**Keewatinoow Converter Station and Associated**	**Construction**	Staffed security gate to monitor access to the site and prevent unauthorized access
				Operation	A coordinated approach to addressing issues related to worker interaction across all Manitoba Hydro projects in the vicinity of Gillam is planned. Any related processes and measures implemented during the construction phase could be extended into the operation phase if required.