

MACKENZIE GREEN ENERGY CENTRE PROJECT

APPENDIX C

Compendium of Commitments

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AREA/SECTOR	COMMITMENTS	REFERENCE IN APPLICATION	AGENCY CONTACT	STATUS
<u>ENVIRONMENTAL</u>				
A	GEOPHYSICAL ENVIRONMENT	<ul style="list-style-type: none"> • Remove existing landfilled wood residue from the MGEC site and dispose of this material in accordance with provincial regulations. • Comply with the Environmental Management Act and the Contaminated Sites Regulation. • Conserve soil A and B horizons by stripping and stockpiling for reuse. • Implement storm water management plan. 	Section 5.3.2, Appendix H	MOE
B	AIR QUALITY	<ul style="list-style-type: none"> • Apply for an emissions discharge permit from the MOE. • Wood-fired boiler will meet the following emission limits: PM: 50 mg/m³ @ 8% oxygen NOx: 330 mg/m³ @ 8% oxygen Standard conditions: dry gas at 293.15 k and 101.325 kPa. 	Section 3.4	MOE
		<ul style="list-style-type: none"> • Monitor the wood-fired boiler exhaust gas continuously for in-stack opacity, the concentrations of NOx, and oxygen, and the flow rate of dry gas. Data will be reported to the MOE. Calibration and certification tests will be performed as required under the permit. 	Section 5.4.3	MOE
		<ul style="list-style-type: none"> • Conduct emissions monitoring as required by the MOE. • For the initial one to two years of operation, the wood-fired boiler exhaust gas will be tested quarterly to measure the concentrations of filterable particulate matter, NOx, and oxygen, and the dry gas flow rate to demonstrate compliance with permit criteria. The subsequent monitoring program could then be revised based on previous results. 	Section 5.4.3	MOE
		<ul style="list-style-type: none"> • Conduct a screening level test of emissions of polycyclic aromatic hydrocarbons, dioxin and furan in triplicate in the first year of operation and report the results of this test to Environment Canada and the BC Ministry of Environment. 		Environment Canada, MOE

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		<ul style="list-style-type: none"> The MGEC will not knowingly accept wood residue that does not meet quality control specifications, such as by containing salt-laden wood. 			
C	GREENHOUSE GAS EMISSIONS	<ul style="list-style-type: none"> Greenhouse gas emissions will be reported to Statistics Canada as required by federal legislation. 	Section 5.5.3		
D	NOISE <u>CONSTRUCTION</u>	<ul style="list-style-type: none"> Comply with District of Mackenzie Noise Control Bylaw #377 and Amendment #450. Implement construction noise guidelines to mitigate the effects of noise from equipment and construction activities. 	Section 5.6.2.1	District of Mackenzie	
	<u>OPERATION</u>	<ul style="list-style-type: none"> Vendors to supply equipment with a sound power level equal to or less than the design basis for specific noise sources. 	Section 5.6.2.3		
		<ul style="list-style-type: none"> Steam turbine and generator will be installed inside a building. 	Section 5.6.3		
E	PROCESS WASTEWATER	<ul style="list-style-type: none"> Pope & Talbot will retain the responsibility for monitoring and compliance of the final discharge with permit requirements. 	Section 5.7.1.3	MOE	
F	STORM WATER RUNOFF <u>DURING CONSTRUCTION</u>	<ul style="list-style-type: none"> Implement Storm Water Management Plan prior to construction. One water quality station (WQS#1) at the north end of the wetland will be monitored for turbidity and oil and grease on a schedule that will be specified in the final Storm Water Management Plan based on the schedule of construction activities and seasonal precipitation. Baseline turbidity and general water chemistry will be monitored monthly at WQS#1 following spring snowmelt prior to the initiation of construction activities. 	Section 5.7.2.2 Appendix H Section 5.7.2.3	MOE District of Mackenzie	
	<u>DURING OPERATION</u>	<ul style="list-style-type: none"> Implement Storm Water Management Plan for operation. Vehicle maintenance posing a risk from spills of hydrocarbons or other substances will be done over a concrete slab that drains through an oil/water separator to the plant wastewater sewer. The potential effects of spills during on-site refuelling of 	Section 5.7.2.2 Appendix H	MOE District of Mackenzie	

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	<p>vehicles will be mitigated by installation of an above-ground diesel fuel tank meeting Underwriters Laboratory of Canada tank specifications within a concrete containment area. The fuel storage facility will comply with the BC Fire Services Act and the 2006 BC Fire Code.</p> <ul style="list-style-type: none"> The vehicle refuelling area will be paved and fuel spills in this area will be soaked up in absorbent material and properly disposed of. A spill response kit capable of containing and absorbing fuel spills will be available and maintained in accordance with the 2006 BC Fire Code. 			
<p><u>WOOD RESIDUE STORAGE AREA</u></p>	<ul style="list-style-type: none"> Construct a reduced-permeability working surface in the wood residue storage area draining at a slope of 2% towards collection ditches. Construct collection ditches lined with high-density polyethylene or material of equivalent performance to direct runoff to a detention pond. Construct a lined detention pond sized for a 1 in 100-year 24-hour rainfall to collect and treat runoff from the wood residue storage area. Retain a depth of water in the detention pond to sustain micro-organisms for water treatment and remove snow build-up from the detention pond prior to spring snowmelt if safe to do so. Periodically discharge treated runoff to the Pope & Talbot ash pond. Utilize good operating practices for management of the wood residue storage pile to reduce leachate formation, contain and collect leachate that is formed, and reduce infiltration of leachate to groundwater. 	<p>Section 5.7.2.2 Section 5.7.2.3</p>	<p>MOE</p>	
<p><u>WOOD ASH LANDFILL</u></p>	<ul style="list-style-type: none"> Apply for a refuse disposal permit from the MOE (or register and operate the ash landfill under the code of practice for non-hazardous landfills if implemented by the MOE), including provision of all of the supporting information required for the permit application. Conduct additional fieldwork to confirm subsurface conditions that have been assumed for the preliminary design of the ash landfill and the Preliminary Ash Landfill Management Plan. 	<p>Section 5.7.4.2.2 Appendix A – Preliminary Ash Landfill Management Plan</p>	<p>MOE</p>	

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		<ul style="list-style-type: none"> Finalize the Preliminary Ash Landfill Management Plan in consultation with the MOE. Install basal and cover liners and a leachate/runoff collection system in the ash landfill. Transfer runoff and leachate periodically to the Pope & Talbot ash pond. 			
	<u>POPE & TALBOT ASH POND</u>	<ul style="list-style-type: none"> Monitor effluent discharged from the Pope & Talbot ash pond on a quarterly basis for toxicity (rainbow trout, 96h), total suspended solids, BOD₅, and flow rate, or for parameters and at a frequency as required by MOE permit. 	Section 5.7.3.3	MOE	
	<u>WETLAND</u>	<ul style="list-style-type: none"> Conduct a water quality baseline study prior to the start up of MGEC for the Pope & Talbot sewage treatment plant effluent, the ash pond effluent, and the wetland, including the four segments in spring freshet, summer, fall and winter (if not frozen). These tests are to provide a baseline should it be necessary to review the effects of MGEC discharges, or to optimize the MGEC effluent treatment systems. Pope & Talbot will retain the responsibility for monitoring and compliance of the discharge from the wetland with current permit requirements. 	Section 5.7.3.3	MOE	
G	GROUNDWATER <u>WOOD RESIDUE STORAGE AREA</u>	<ul style="list-style-type: none"> Install two groundwater monitoring wells in the unconfined aquifer, one up-gradient and one down-gradient immediately outside the perimeter of the wood residue storage area. Take water samples as required by MOE permit and report results to the MOE and, upon request, to First Nations. 	Section 5.7.4.3	MOE	
	<u>ASH LANDFILL</u>	<ul style="list-style-type: none"> Install four groundwater monitoring wells, one on each side of the combined phase 1 and phase 2 landfill areas, on the outer perimeter. Take water samples as required by MOE permit and report results to the MOE and, upon request, to First Nations. 	Section 5.7.4.3	MOE	
H	AQUATIC HABITAT	<ul style="list-style-type: none"> Implement the Storm Water Management Plan during construction to reduce the risk of sediment input and other pollutants from entering the wetland with water runoff. Implement environmental monitoring program during construction as described for storm water runoff. 	Section 5.8.3	MOE	

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I	VEGETATION	<ul style="list-style-type: none"> Prevent or minimize disturbance of areas not needed for facilities and outside construction areas, including leaving a minimum 15-metre uncleared buffer area around the perimeter of the site where the ash landfill will be located. 	Section 5.9.3 Ash Landfill Management Plan, Appendix A.	MOE	
J	WILDLIFE <u>CONSTRUCTION</u>	<ul style="list-style-type: none"> Construct up to five nesting platforms in areas of the MGEC site left undisturbed from clearing and site preparation to accommodate birds displaced as a result of the construction and operation of the proposed MGEC project. Leave a minimum 15-metre uncleared buffer area around the perimeter of the site where the ash landfill will be located. Describe in the component plans of the Environmental Management Program wildlife/vegetation environmental measures that provide project personnel with instructions on how to deal with various wildlife/vegetation related issues during construction. This will be incorporated in the following plans: <ul style="list-style-type: none"> Storm Water Management Plan (Appendix H) Spill Prevention and Contingency Plan (Appendix L), Landscape Design and Restoration Plan (Appendix M). A field assessment will be prepared by a registered professional biologist prior to the initiation of clearing to confirm presence/absence of species that may have migrated onto the MGEC site, and to recommend means of removal/relocation to sites on adjacent property. Conduct a nest survey if and where project activities overlap with the migratory bird breeding season. If activities overlap, than a nest survey will be conducted on potential nesting habitat within 500 m of the proposed MGEC disturbed area using protocols developed in the Inventory Methods for Forest and Grassland Birds. If nesting activity is documented during this period, than a follow up survey will be conducted during both the construction and post construction (operational) phases of the project. The environmental monitor will conduct site inspections (frequency depending on construction activities underway) during the construction phase to assess and resolve 	Section 5.10.5 Ash Landfill Management Plan, Appendix A. Section 9.	MOE	

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		unforeseen environmental issues that may arise with regard to biophysical effects of construction work.			
	<u>OPERATION</u>	<ul style="list-style-type: none"> Require wood residue trucking contractors to report to MGEC related collisions with bear, elk, deer, or moose. MGELP will maintain a summary of accident information and annual animal deaths. If a high frequency of animal deaths is noted on a particular road segment or by particular contractors, then MGELP will attempt to reduce future animal fatalities by requesting contractors implement relevant driver training or policies. 	Section 5.11.3	MOE	
K	LAND USE	<ul style="list-style-type: none"> None 	Section 5.13.9		
L	ARCHAEOLOGICAL RESOURCES	<ul style="list-style-type: none"> In the unlikely event that archaeological features or remains are encountered during the construction phase, MGELP will contact the BC Ministry of Tourism, Sport and the Arts, Archaeology Branch immediately. 	Section 5.14.3	MTS&A	
M	WATER SUPPLY	<ul style="list-style-type: none"> MGEC will use a cooling tower with efficient drift reduction controls. MGEC will minimize cooling tower blowdown at a level that satisfies operating and maintenance requirements. MGEC will implement operating and maintenance procedures to guide staff to conserve water. The Pope & Talbot pulp mill will retain the responsibility for monitoring, amendment, and compliance in regard to its water licence. MGEC will provide bottled water for potable use in the MGEC. 	Section 5.14.2	Water Stewardship Division (MOE). Northern Health	
N	WASTE MANAGEMENT	<ul style="list-style-type: none"> Minimize, reuse, and recycle wastes. A secure wood ash landfill will be constructed and operated in accordance with an ash landfill management plan and the future refuse permit or code of practice for nonhazardous landfills. Hazardous wastes will be handled and disposed of in accordance with the provincial hazardous waste regulation. Comply with WHMIS for worker protection. Construction Waste Management Plan - Sediments and sludge collected in clean-out sumps at drains from vehicle 	Sections 5.15	Regional District of Fraser-Fort George, MOE	

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		washing facilities, if present during construction, will be inspected for hydrocarbons and dewatered prior to disposal.			
O	ENVIRONMENTAL MANAGEMENT PLANS	<ul style="list-style-type: none"> Finalize and implement the Environmental Management Program described in section 9 of the application. 	Section 9	MOE District of Mackenzie Regional District of Fraser-Fort George	
FIRST NATIONS					
A	TRADITIONAL LAND USE STUDY	<ul style="list-style-type: none"> Herbicides or pesticides will not be applied to TLU Sites 3 and 17, which are within the 15 m buffer around the ash landfill area and, where practical, to other areas of the MGEC site. Guidelines for the use of pesticides and herbicides on the MGEC site will be included in the final Landscape Design and Restoration (LDR) Plan (Appendix M of Application). A draft plan will be provided to First Nations. 	Section 6.3.3	McLeod Lake Indian Band West Moberly First Nations Saulteau First Nations Halfway River First Nation	
B	TREATY RIGHTS	<ul style="list-style-type: none"> Continue to work with the West Moberly, Saulteau, Halfway River, and Fort Nelson First Nations, McLeod Lake Indian Band, and the Treaty 8 Tribal Association through construction and operations and deal with any potential issues identified in a timely manner. Recognize National Aboriginal Day (June 21, 2007) by undertaking initiatives or activities that show MGELP's support. 	Section 6.4.3	West Moberly, Saulteau, Halfway River and Fort Nelson First Nations; McLeod Lake Indian Band; & T8TA	
C	EMPLOYMENT AND INCOME	<ul style="list-style-type: none"> Provide construction contractor with information on the capabilities of First Nations businesses. Inform the First Nations of the contact person for the construction contractor. Prepare an Information Sheet identifying the jobs available during construction and operations and provide it to First Nations. Subject to the agreement of the construction contractor, two 'job shadowing' positions will be offered during construction to interested individuals from the First Nations. The details 	Section 6.5.3	West Moberly, Saulteau, Halfway River and Fort Nelson First Nations; McLeod Lake Indian Band; and Treaty 8 Tribal Association	

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		<p>of this program will be refined during the construction phase.</p> <ul style="list-style-type: none"> • During operations MGEC will have two apprenticeship positions (e.g., trade, non-trade) available for qualified individuals from the McLeod Lake Indian Band, and the West Moberly, Saulneau, Halfway River and Fort Nelson First Nations. The details of this program will be discussed with First Nations and refined during the construction phase. • Work with the First Nations to ensure that those selected for the apprenticeships are qualified for the positions. 			
D	BUSINESS OPPORTUNITIES	<ul style="list-style-type: none"> • Prepare an Information Sheet that describes the goods and services that will be required during construction and operations and provide it to the First Nations. • Host a contractors open house in Mackenzie to provide businesses with information about purchasing procedures; qualifications, insurance, and information requirements; completion of quotation documents, major contractors, anticipated timing and breakdown of contracts, and to add names to the registry of local businesses. • Advertise the contractor's open house in the appropriate communities. • Recognizing that the contractor's open house will be held in Mackenzie, MGELP will also provide the open house information directly to First Nations for distribution to their business interests. • Forward to the EPC contractor a listing of First Nations' businesses, as provided by First Nations, with an interest in contracting with the project. 	Section 6.6.3	West Moberly, Saulneau, Halfway River and Fort Nelson First Nations; McLeod Lake Indian Band; and Treaty 8 Tribal Association	
E	TRANSPORTATION AND TRAFFIC	<ul style="list-style-type: none"> • Require wood residue trucking contractors to report to MGEC collisions with bear, elk, deer, or moose. • MGELP will maintain a summary of accident information and annual animal deaths and, upon request, provide an annual summary to First Nations. • If a high frequency of animal deaths is noted on a particular road segment or by particular contractors, then MGELP will attempt to reduce future animal fatalities by requesting contractors implement relevant driver training or policies. 	Section 6.7.3	West Moberly, Saulneau, Halfway River and Fort Nelson First Nations; McLeod Lake Indian Band; and Treaty 8 Tribal	

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		<ul style="list-style-type: none"> • MGELP has agreed to meet with members of the MLIB, upon their request, that harvest country foods along the Fort St. James to Mackenzie forest service road to discuss the following: <ul style="list-style-type: none"> - Discuss MGEC fuel transportation routes - Illustrate on a map areas where country foods are harvested by members of the MLIB along the Mackenzie to Fort St. James fuel supply route. - Discuss potential effects of road dust on country foods. - If agreed upon at the meeting, conduct a linear tour of the Mackenzie to Fort St. James forest service road to visit relevant areas containing country foods. 		Association	
<u>SOCIOECONOMIC</u>					
A	EMPLOYMENT, INCOME AND GOVERNMENT REVENUES	<ul style="list-style-type: none"> • Present project information at community events (e.g., Chamber of Commerce luncheons). • Place project information and employment advertisements in the Mackenzie Times newspaper. • Prepare an Information Sheet that identifies the jobs that will be available during construction and operations. This Information Sheet will be posted on the MGEC website, sent to First Nations, distributed at the contractors' open house, sent to those who request employment information and provided to HRDC and local colleges. • Encourage project contractors to give preference during construction to qualified workers in the Mackenzie area and from the First Nations with an interest in MGEC. • Consider any Pope & Talbot workers displaced as a result of MGEC for a position with MGEC. • MGEC will give preference for operations employment to qualified local residents. • Provide a \$500 bursary to a student from the District of Mackenzie annually from 2010 to 2030. 	Section 7.3.3		
B	BUSINESS OPPORTUNITIES	<ul style="list-style-type: none"> • Prepare an Information Sheet that identifies the goods and services that will be required during construction and operations. This Information Sheet will be posted on the MGEC website, sent to First Nations, distributed at the 	Section 7.5.3		

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		<p>contractors' open house, and sent to those who request information about business opportunities with the project.</p> <ul style="list-style-type: none"> • Host a contractors open house to provide businesses with information about purchasing procedures; qualifications, insurance, and information requirements; completion of quotation documents, major contractors, anticipated timing and breakdown of contracts, and to add names to the registry of local businesses. • Advertise the contractor's open house in the appropriate communities. • Provide the EPC contractor with a listing of local businesses with an interest in contracting with the project. • MGELP will accept wood residue delivered to the MGEC by an outsider supplier if the following conditions are met: <ul style="list-style-type: none"> - the supplier agrees to standard terms and conditions for sale of the wood residue to MGELP 7 days in advance of the proposed delivery date. - the delivered wood residue meets MGELP's quality control specifications. - the wood residue is needed to supplement contracted wood residue supplies and inventory. - the delivery is made by a truck with a means of discharge compatible with the wood residue receiving equipment. - the wood residue is delivered to the MGEC within a window of time agreed to in advance. 			
C	HOUSING	<ul style="list-style-type: none"> • Offer construction employees the option of staying at Camp Watters. • To deal with the housing shortage during the Pope & Talbot shutdown, shifts will be planned to maximize the number of workers offsite during this time. In the event that there is a housing shortage, MGELP will consider partially or completely halting construction in order to ensure that the effects of a temporary housing shortage are minimized. • Encourage workers to stay at Camp Watters during periods when local temporary accommodation is in high demand (e.g., hockey tournaments, etc). 	Sections 7.6.2 and 7.6.3	District of Mackenzie	
D	TRANSPORTATION AND TRAFFIC	<ul style="list-style-type: none"> • Workers staying at Camp Watters will be bussed to the site. • Provide on-site parking for workers who drive to the site. 	Section 7.7.1.3	Ministry of Transportation,	

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		<ul style="list-style-type: none"> Obtain permits for the movement of very heavy or wide loads and notify the Ministry of Transportation and District of Mackenzie. Notify the District in advance of road closures and work to minimize effects. If a traffic problem arises, plan construction shifts so as to minimize the impact on traffic. Provide the District of Mackenzie and local emergency service providers with information pertaining to transportation routes and anticipated traffic volumes during construction. Provide stop signs on each side of the site specific railroad crossing and at all road crossings and intersections. Visitors will report to the project office when arriving on site. Deliveries will be scheduled for non-peak periods. 		District of Mackenzie	
E1	EMERGENCY SERVICES - FIRE	<ul style="list-style-type: none"> Design MGEC to comply with government and industrial insurance underwriters' guidelines concerning fire and explosion hazards. Provide adequate water pressure to the site for fire fighting. Meet with the District of Mackenzie fire department to outline construction activities and emergency co-ordination. Provide copies of the Emergency Response Plans, Fire Containment Plan, Environmental Protection Plan, relevant portions of the operations and maintenance manual, emergency phone numbers and other relevant materials to the Fire Department. Invite fire department representatives to participate in training and safety procedures. Work with other companies in the industrial area to discuss and coordinate fire protection and emergency response. 	Section 7.8.1.3	District of Mackenzie Fire Department	
E2	EMERGENCY SERVICES - POLICE	<ul style="list-style-type: none"> Meet with the RCMP to outline construction activities and emergency co-ordination. Apprise the RCMP of oversize construction and materials deliveries and provide an overview of construction activities. Provide copies of the Emergency Response Plans, Fire Containment Plan, Environmental Protection Plan, relevant portions of the operations and maintenance manual, emergency phone numbers and other relevant materials to 	Section 7.8.2.3	Mackenzie RCMP	

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		<ul style="list-style-type: none"> the RCMP. Fence the construction site and main operations area. Require that all visitors report to the project office. 			
E3	EMERGENCY SERVICES - AMBULANCE	<ul style="list-style-type: none"> Meet with the District of Mackenzie ambulance station to outline construction activities and emergency coordination. Provide the unit chief with a tour of the site and copies of the Emergency Response Plan, Fire Containment Plan, Environmental Protection Plan, operations and maintenance manual, emergency phone numbers and other relevant materials. 	Section 7.8.3.3	Mackenzie Ambulance Service	
E4	EMERGENCY SERVICES - EMERGENCY RESPONSE	<ul style="list-style-type: none"> Prepare an Emergency Response Plan (ERP) in consultation with appropriate regulatory agencies and the District of Mackenzie Emergency Program Co-ordinator. Design MGEC to comply with applicable government and industrial insurance underwriters' guidelines concerning fire and explosion hazards. Provide staff with appropriate emergency response equipment. 	Section 7.8.4.3	District of Mackenzie	
F	HEALTH SERVICES	<ul style="list-style-type: none"> Prepare an Emergency Response Plan (ERP) in consultation with appropriate regulatory agencies and the District of Mackenzie Emergency Program Co-ordinator. Require that the MGEC construction contractor have a safety program that adheres to all WorkSafeBC regulations and that all employees are briefed on safety policies and practices. Comply with WorkSafeBC's industrial first aid requirements. 	Section 7.9.3	MOE, District of Mackenzie, Other Agencies as required.	
G	UTILITY SERVICES	<ul style="list-style-type: none"> MGEC will not use the District of Mackenzie's water supply or discharge systems. MGEC will not use the District of Mackenzie's sanitary sewer system. 	Sections 7.10.1 and 7.10.2	District of Mackenzie	
H	SUSTAINABILITY FUND	<ul style="list-style-type: none"> MGELP will implement a Sustainability Fund that will provide funding to the community in support of environmental, social, or energy efficiency initiatives. The guiding principles of the fund are anticipated to be as follows: <ul style="list-style-type: none"> Support community and First Nations environmental, social, or energy efficiency goals; 			

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		<ul style="list-style-type: none"> - Provide seed funding for environmental, social, or energy efficiency projects; and - Potentially, leverage funding from the Sustainability Fund with outside sources of money to achieve broader environmental, social, or energy efficiency goals. 			

Abbreviations:

MOE

Ministry of Environment

MTS&A

Ministry of Tourism, Sport and the Arts, Archaeology Branch