

APPENDIX 4

TABLE OF COMMITMENTS

#	Commitment Topics	Description of Commitment Activities	Responsibility	Timing
	Design and Layout			
	Final Design Drawings	KCRLP will provide final design drawings to BC MOE Water Stewardship Branch and DFO.	KCRLP/RSW	Final Design
	Independent Engineer Review	An independent engineer (TBA) review of the design and planned construction activities and operational aspects of the project will be required. This activity will take place prior to issuance of the conditional water license and leave to construct.	KCRLP/Independent Engineer (TBA)	Final Design
	Intake Design	KCRLP is committed to a Coanda Screen design at the intake to mitigate fish entrainment at the intake.	KCRL	Final Design
	Minimum Flow Release (MFR)	KCRLP is committed to a design/layout to provide the required minimum flow release of 0.55 m ³ /s	KCRLP/RSW	Application Review Final Design
	Intake – Headpond Safety Boom	KCRLP commits to placing a floating safety boom across the headpond upstream of the weir and spillway to capture floating debris and provide a safety net for the public.	KCRLP/RSW	Operations
	Penstock Route - Creek Crossings	KCRLP is committed to clear span crossings of Kwoiek Creek. The only instream work involves placement of rip-rap along the bank to protect support abutments.	KCRLP/RSW	Application Review Final Design
	Powerhouse	The tailrace design will ensure that the tailrace footprint does not encroach into Kwoiek Creek and result in aquatic habitat loss.		
	Access Roads	Design of new access roads and any upgrades to existing access roads will meet or exceed all provincial forestry standards and codes.	KCRLP/RSW	Final Design
	Transmission Line	Transmission line route will be adapted to avoid key archaeological sites or critical wildlife habitat. Poles have been placed outside of riparian zones.	KCRLP/RSW	Final Design
	Construction Activities			
	Construction Environmental Management Plan (CEMP)	KCRLP and Focus will compile a construction environmental management plan outlining all construction activities, proposed timing of those activities, and environmental constraints (for timing windows see Schedule and/or Environmental Components below), and rolls and responsibilities (i.e., construction manager, construction superintendent, environmental monitor etc). The CEMP will be submitted to regulatory agencies for review and acceptance prior to obtaining EAO Approval.	KCRLP/Focus	Prior to EAO Approval
		The CEMP will be prepared for review and acceptance by regulatory agencies prior to conditional approval from the EAO. It will incorporate construction activities and will contain environmental protection prescriptions, including standard practice and specific approaches to mitigating construction related activities. The CEMP will be included in any contractual agreements for construction contractors at the site. At a minimum, the following general topics	KCRLP/Focus	Application Review Construction

#	Commitment Topics	Description of Commitment Activities	Responsibility	Timing
		<p>will be included in the CEMP:</p> <ul style="list-style-type: none"> • Construction management; • Independent environmental monitoring; • Construction activities, schedule, and timing windows; • Mitigation and environmental protection prescriptions; • Site clearing and preparation; • Water control and management; • Water quality monitoring; • Solid and liquid waste disposal; • Drilling and Blasting; • Concrete Pour and EcoSmart™ products • Spill contingency; • Emergency response and contact protocols; • Fire control; • Dangerous Goods • Waste rock deposition; • Site restoration/reclamation; • Noxious weed control; • Access control and management. <p>The CEMP will commit to meeting the following guidelines, acts, and regulations:</p> <ul style="list-style-type: none"> • Draft Guidelines for the Identification of Material with a Potential to Produce Significant Metal Leaching or Acidic Drainage for Non-Mining Activities; • Guidelines for Metal Leaching and Acid Rock Drainage at Mine sites in British Columbia; • Guidelines for the use of explosives in or near Canadian Waters, 1998; • Emergency Planning for Industry (CAM/CSA-Z731-M91); • CCME Environmental Code of Practice for Aboveground Storage Tank Systems Containing Petroleum Products (1994); • CCME Environmental Code of Practice for Underground Storage Tank Systems Containing Petroleum Products (1993); • BC Fire Code; • Railway Safety Act; • MSRM/MWLAP Summary of Environmental Standards & Guidelines for Fuel Handling, Transportation, and Storage; • Land Development Guidelines for the Protection of Aquatic Habitat. 		
	Construction Schedule and Timing Windows	<p>The following timing windows will be observed pending further discussions with regulatory agencies during project review:</p> <p>1) blasting activity during Mountain Goat kidding and nursery period from November 1 through June 15,</p>	KCRLP/Environmental Monitor (TBA)	Application Review Construction

TABLE OF COMMITMENTS

#	Commitment Topics	Description of Commitment Activities	Responsibility	Timing
		2) instream work during rainbow trout spawning and egg incubation from June through August, and 3) clearing activities during bird nesting period, generally between May 1 and June 30 (to be confirmed with agencies).		
	Drilling and Blasting Management Plan	KCRLP commits to submitting a detailed drilling and blasting plan to MOE, DFO, and NRCan during final design. This information will be contained in the CEMP.	KCRLP	Application Review Construction
	Clearing and Site Preparation	Clearing limits will be minimized and clearing limits will be set for each facility. The CEMP will provide the details of clearing limits.	KCRLP	Application Review Construction
	Operating Activities			
	Operations Environmental Monitoring Plan	KCRLP will compile an OEMP for regulatory agency review and acceptance prior to EAO issuing a conditional approval. The OEMP will outline monitoring requirements during operations that meet compliance requirements and other environmental monitoring requirements related to the following: hydrology; water quality; fisheries and primary production; vegetation; wildlife; and Species at Risk (SAR).	KCRLP/Focus	Application Review Operations
	MFR	KCRLP will maintain the required MFR of 0.55 m ³ /s during operations	KCRLP	Operations
	Flow Ramping	Flow ramping protocols will be established during project review and verified during wet tests at plant commissioning. KCRLP will develop ramping rates with fisheries agencies during the water licence review and Application Review Stage, and confirmed during plant commissioning to ensure there will be no stranding of fish or de-watering of redds. KCRLP commits to establishing a permanent transect immediately upstream and downstream of the project to act as a control point for ramping. This commitment and procedures for ramping will be included in the OEMP.	KCRLP	Operations
	Headpond – Flushing of Sediments	Flushing of sediments built up in the headpond will occur during spring runoff or flood events when maximum natural sediment loads and to	KCRLP	Operations
	Headpond – Large Woody Debris	KCRLP will ensure that large woody debris will continue downstream and not be trapped by the headpond.	KCRLP	Operations
	Access Control Monitoring	KCRLP will prepare an Access Management Plan, in consultation with First Nations and agencies, that will include prescriptions for controlling access to new temporary roads. The OEMP will also include monitoring of the access closures constructed to verify their integrity throughout the life span of the project.	KCRLP	Operations
	Winter Operations	KCRLP commits to shutting down the plant during lengthy cold snaps to minimize the potential effects of anchor ice build-up in the diversion reach. Criteria for shutting down the plant will be established in consultation with	KCRLP	Operations

TABLE OF COMMITMENTS

#	Commitment Topics	Description of Commitment Activities	Responsibility	Timing
		agencies.		
	Abandonment and Decommissioning Activities			
	Abandonment	In the event the project has to be abandoned prior to its expected life span, KCRLP will prepare an abandonment plan to be submitted to regulatory agencies for approval prior to abandoning the project. KCRLP is also willing to post a bond (amount to be determined during project review phase) to cover abandonment and decommissioning costs.	KCRLP	Abandonment
	Decommissioning	At the end of the project life expectancy, KCRLP will prepare a decommissioning plan for regulatory agency review prior to initiating any decommissioning activities.	KCRLP	Decommissioning
	Accidents and Malfunctions			
	Accidents	KCRLP will implement a health and safety program at the Project site.	KCRLP	Construction Operations
	Malfunctions	In the event of a catastrophic failure of any project facility or toxic substances spill, KCRLP will implement a clean-up program to be described in the Emergency Response Plan.	KCRLP	Construction Operations
	Environmental Components			
	Noise	All contractor vehicles and equipment will be fitted with mufflers in good working condition. The CEMP will stress the requirement for noise abatement on all equipment used on site.	KCRLP	Construction
	Air Quality	KCRLP is committed to minimizing air emissions during construction by applying BMPs for air quality and dust control, as will be described in the CEMP.	KCRLP	Construction
	Geotechnical – Natural Hazards	Geotechnical investigations have been completed for final design of the intake, penstock, and powerhouse. Natural hazards have been addressed in the 2008 Amended Application. The geology and ground conditions will be confirmed through a comprehensive geotechnical site investigation program, at the time of final design.	KCRLP	Final Design
	Hydrology – Operations Monitoring	KCRLP will establish a hydrometric station immediately upstream (i.e. in the diversion reach) and immediately downstream of the powerhouse to monitor water levels and compliance with ramping flows.	KCRLP	Operations
	Water Quality	Water quality will be monitored during construction and operations. The parameters, sample sites, and sampling protocol frequency will be discussed during review and implemented during construction and operations. The CEMP and OEMP will include a Water Quality Monitoring Plan that will be	KCRLP	Construction Operations

TABLE OF COMMITMENTS

#	Commitment Topics	Description of Commitment Activities	Responsibility	Timing
		developed with input from appropriate agencies and will be adequate to identify appropriate changes in temperature for a wide range of flow conditions. Parameters of particular interest in the Specifications included; temperature, turbidity, dissolved oxygen, TGP, pH, ammonia, nitrite, and nitrate. Quality assurance and quality control measures will be established to ensure data reliability.		
	Sediment and Bedload	KCRLP will prepare a Sediments and Drainage Management Plan that will incorporate requirements referred to in Singleton (1985) to establish particulate matter levels for the project.	KCRLP/Focus	Application Review
	Fisheries/Primary Production	No specific mitigation measures are proposed at this time. The results of temperature monitoring during operations may reveal effects on the aquatic environment. KCRLP is committed to discussing those effects with regulatory agencies and implement measures to reduce effects should the need arise. Residual effects will be addressed through a Mitigation and Compensation Plan to achieve no net loss and no net residual effects.	KCRLP/Focus	Application Review
	Vegetation SAR	Although no vegetation communities or plants of concern were found during baseline field surveys in the project area, KCRLP will implement Best Management Practices (BMP's) during construction if such plants or vegetation communities are encountered. The environmental monitor will be responsible for notifying KCRLP, contractors, and agencies as necessary.	KCRLP	Construction
	Vegetation – Riparian Planting	KCRLP will re-plant all riparian areas with native seed mixes and shrubs, except where facilities prevent re-planting. The success of re-planted areas will be monitored each year and any dead plants replaced until there success is verified. The determination of successful re-vegetation will be established through discussions with regulatory agencies prior to implementing the re-planting program.	KCRLP	Construction
	Vegetation Maintenance – Transmission Line	Pruning along the transmission line corridor will be done outside the breeding bird season.	KCRLP	Operations
	Vegetation – Noxious Weed Control	KCRLP is committed to the control of noxious weeds at the project site. Noxious weed control prescriptions will be identified in the CEMP, and the OEMP will include a section on identifying and controlling noxious weeds.	KCRLP	Construction Operations
	Wildlife Trees	The CEMP will identify measures (i.e., flagging) to protect wildlife trees during construction (to be determined in consultation with appropriate agencies). Where live or dead large trees must be removed, consideration will be given to leaving 3 to 5 m stubs, provided this can be achieved safely under WCB regulations. 'Wildlife Trees' will not be cut down unless absolutely necessary (i.e., considered a 'danger tree'). KCRLP are committed to minimize clearing during the construction phase.	KCRLP	Construction
	Raptor Nest Survey – Transmission Line	KCRLP has proposed a preferred transmission line route in the 2008 Amended Application. However, the final design will not be available until further into the review process. Once the design has been completed, a survey of active raptor nests will be conducted. The transmission line will be moved to avoid active raptor nests or BMP's implemented following discussions with MOE.	KCRLP	Construction
	Harlequin Ducks	Although no Harlequin Ducks were observed during field surveys, KCRLP	KCRLP	Construction

TABLE OF COMMITMENTS

#	Commitment Topics	Description of Commitment Activities	Responsibility	Timing
		operating staff will keep a log of Harlequin Duck observations in the project area during operations. KCRLP is willing to discuss with CWS the need to implement a Harlequin Duck monitoring program during operations		Operations
	Reclamation/Re-vegetation	All disturbed areas (beyond the footprint of each facility) will be reclaimed (contoured and planted with native species) following construction activities. The details of reclamation and re-vegetation prescriptions will be provided in the CEMP and in the OEMP for determining success of planting. MOE and First Nations will be consulted on species to be used.	KCRLP	Construction Operations
	Wildlife-Vehicle Collisions	Contractors will be encouraged to use as few vehicles as necessary and reduce speed to minimize wildlife-vehicle collisions.	KCRLP	Construction Operations
	Bear Management	Contractors will be given bear management training to prevent worker-bear encounters. This training will include solid waste and garbage control methods, and protocols for bear encounters.	KCRLP	Construction Operations
	Grizzly Bears	Although the project area has low habitat capability and effectiveness, there is the potential for grizzly bear presence. The requirement for monitoring grizzly bear activities during construction and operations will be discussed further with MOE and any monitoring requirements will be included in the CEMP and OEMP.	KCRLP	Construction Operations
	Mountain Goats (blasting activities during construction)	At the power project, KCRLP will instruct contractors to avoid any blasting activity between November 1 st and July 15 th . Furthermore, KCRLP will notify and discuss with MOE any construction activity involving heavy equipment or pile driving that creates excessive noise levels between these dates.	KCRLP	Construction
	Mountain Goat (monitoring during construction and operations)	KCRLP will discuss with MOE the approach to a Mountain Goat monitoring program during construction. The CEMP and OEMP will include the details of the monitoring requirements and approach as per discussions with MOE.	KCRLP	Construction Operations
	Bird Nesting (clearing and site preparation)	Clearing and site preparation activities are restricted during the bird nesting period, generally between May 1 and June 30 (to be confirmed with agencies). In the event that clearing is required between these dates, KCRLP will retain an independent biologist to conduct a nesting birds survey, submit a report verifying there are no nesting birds, and a clearing plan to avoid nesting birds should any be encountered. Acceptance of the report and clearing plan will be required before clearing activity commences between these dates.	KCRLP	Construction
	Bird Nesting (electrocution and entanglement)	KCRLP will discuss measures that mitigate entanglement or electrocution of birds further with regulatory agencies once the results of the 2009 bird nesting surveys are complete. Possible mitigation measures could include placement of visual markers along critical sections of the transmission line and design measures that may deter contact with the line (e.g., route selection, structure design).	KCRLP	Applicaton Review
	Hunting Pressure	Crews working on site will be prohibited from hunting in the Project area. Access to the power project facilities will also be restricted during operations. Transmission line access roads will be blocked to prevent hunters from	KCRLP	Construction

TABLE OF COMMITMENTS

#	Commitment Topics	Description of Commitment Activities	Responsibility	Timing
		entering the transmission line by vehicle.		
	Rattlesnakes	As per the request in Specification # 27(e), contractors will be made aware of the concern for rattlesnakes and to record all observations. This will be re-iterated in the CEMP.	KCRLP	Construction
	Wildlife SAR	KCRLP will conduct a final check on SAR presence at the project facilities immediately prior to construction. Best Management Practices (BMP's) will be implemented in consultation with the Environmental Monitor prior to proceeding with construction activities. The environmental monitor will be responsible for notifying KCRLP, contractors, and agencies as necessary to develop a plan of action.	KCRLP	Application Review Construction
	Old Growth Management Areas (OGMA's)	There are no OGMA's affected by the project. However, veteran trees will be retained where possible.	KCRLP	Construction
	Archaeology – Power Project	All efforts will be made to avoid impacting archaeological sites at the power project site. In the event avoidance is not possible, KCRLP will apply for a permit to excavate and recover artifacts at sites that may be impacted by project facilities prior to construction activities.	KCRLP	Application Review Construction
	Archaeology – Transmission Line	All efforts will be made to avoid impacting archaeological sites along the transmission line route. KCRLP will apply for permits to conduct an AIA along the transmission line once the final design is complete. If any sites identified in the AIA can not be avoided, KCRLP will apply for permits to excavate and recover artifacts prior to construction.	KCRLP	Application Review Construction
	First Nations			
	2008 Amended Application - Independent Review	KCRLP will provide funding to First Nations to conduct independent review of the 2008 Amended Application	KCRLP	Application Review
	Issue Resolution	KCRLP will work towards resolution of issues or concerns expressed by the public and stakeholders.	KCRLP	Application Review
	Continued Consultation	The consultation program will continue through the project review and construction phase. In the 2008 Amended Application several meeting with First Nation communities are identified.	KCRLP	Construction
	Employment and Job Training	KCRLP will assist in establishing training programs that will maximize the First Nations employment opportunities.	KCRLP	Construction
	Trail Preservation	KCRLP will work with First Nations to identify trails and develop mitigation measures to minimize impacts to trails.	KCRLP	Construction
	Food Harvest	KCRLP will work with First Nations to identify significant harvest areas and will avoid disturbances to these areas, where possible. Transmission line ROW maintenance will avoid use of herbicides. Transportation through work areas or access windows will be provided for sites that area alienated during the construction period.	KCRLP	Construction

TABLE OF COMMITMENTS

#	Commitment Topics	Description of Commitment Activities	Responsibility	Timing
	Public/Stakeholders			
	2008 Amended Application – Public Review	KCRLP will place advertisements in local newspapers listing the 2008 Amended Application depository locations, review timeline, along with dates and locations of Public Open Houses	KCRLP	Application Review
	Open House/Consultation	KCRLP has prepared a public consultation plan to be implemented during project review. Open houses are planned for several communities near the project in September 2008.	KCRLP	Application Review
	Continued Consultation	KCRLP will respond to issues and concerns raised at the Public Open Houses by direct reply to each individual or organized group. KCRLP will maintain their project web site (www.kwoiekcreekhydro.com) and will compile project updates for distribution to a mailing list to be compiled during consultation activities. Consultation activities will continue until the project becomes operational.	KCRLP	Application Review
	Issue Resolution	KCRLP will work towards resolution of issues or concerns expressed by the public and stakeholders.	KCRLP	Application Review
	Road Upgrades	KCRLP commits to involving public input from local property owners and road users before upgrades to the road system north of North Bend are undertaken.	KCRLP	Application Review