

YUKON WATER BOARD

Pursuant to the *Waters Act* and *Waters Regulation*, the Yukon Water Board hereby grants a Type B water licence for a miscellaneous undertaking to:

Yukon Energy Corporation
#2 Miles Canyon Road
P.O. Box 5920
Whitehorse, YT Y1A 6S7

LICENCE NUMBER: MS10-044

LICENCE TYPE: B **UNDERTAKING:** MISCELLANEOUS

WATER MANAGEMENT AREA: 02 Yukon

LOCATION: Crooked Creek, a Tributary of the Stewart River

MAP CO-ORDINATES: Latitude: 63° 22' 12" N Longitude: 136° 42' 04" W

PURPOSE: Construction, operation and maintenance of a clear span bridge across Crooked Creek.

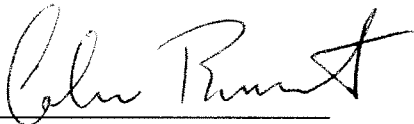
EFFECTIVE DATE: The effective date of this licence shall be the date on which the signature of the Chairperson of the Yukon Water Board is affixed.

EXPIRY DATE: August 4, 2035

This licence shall be subject to the restrictions and conditions contained herein and to the restrictions and conditions contained in the *Waters Act* and the *Waters Regulation* made thereunder.

Dated this 9th day of
August, 2010.

Approved by:



Witness



Chairperson
YUKON WATER BOARD

PART A - DEFINITIONS

“Act” means *Waters Act* and any amendments thereto.

“Application” means Water Use Application MS10-044, including any additional submissions and/or revisions submitted to the Yukon Water Board by the Licensee, up to the date of the Board’s decision.

“Board” means the Yukon Water Board.

"Inspector" means any person designated as an Inspector under the Act.

"Natural Boundary" means the visible high water mark of any lake, river, stream or other body of water where the presence and action of water is so common and usual and so long continued as to mark upon the soil of the bed of the lake, river, stream or other body of water a character distinct from that of the banks thereof, both in respect to vegetation and in respect to the nature of the soil itself. In addition, the best estimates of the edge of dormant or old side channels and marsh areas are considered to be Natural Boundaries.

“Regulation” means the *Waters Regulation* made under the Act.

“Spill Contingency Plan” means the *YEC Spill Contingency Plan* that was submitted as part of the Application and included in Water Use Register MS10-044 as exhibit 1.4, and any subsequent revisions.

“Waste” means any substance as defined in the Act.

“Watercourse” means any stream, lake, pond, river, creek, spring, ravine or swamp whether ordinarily containing water or not.

“Wetted Perimeter” means the horizontal extent of the present water level while the work is taking place.

PART B - GENERAL CONDITIONS

Other Laws

1. No condition of the water use licence limits applicability of any statutory authority.
2. All construction or installation of works authorized by this licence shall occur on property that the Licensee has the right to enter upon and use for that purpose.

Correspondence

3. Where any direction, notice, order or report under this licence is required to be in writing, it shall be given:

a) To the Licensee, if delivered, faxed or mailed by registered mail to the following address:

Yukon Energy Corporation
#2 Miles Canyon Road
P.O. Box 5920
Whitehorse, YT Y1A 6S7
Fax: (867)393-5322

and shall be deemed to have been given to the Licensee on the day it was delivered or faxed, or 7 days after the day it was mailed, as the case may be.

b) To the Board, if delivered, faxed or mailed by registered mail to the following address:

Yukon Water Board
Suite 106, 419 Range Road
Whitehorse, YT Y1A 3V1
Fax: (867) 456-3890

and shall be deemed to have been given to the Board on the day it was delivered or faxed, or 7 days after the day it was mailed, as the case may be.

c) The Board or the Licensee may, by notice in writing, change its address for delivery.

Non-Compliance

4. In the event that the Licensee fails to comply with any provision or condition of this licence, the Board may, subject to the Act, cancel the licence.

Spills and Unauthorized Discharges

5. The Licensee shall immediately contact the 24-hour Yukon Spill Report number, (867) 667-7244, and implement the Spill Contingency Plan should a spill or an unauthorized discharge occur. A detailed written report on any such event including, but not limited to, dates, quantities, parameters, causes and other relevant details and explanations, shall be submitted to the Board not later than 10 days after the occurrence.

6. All personnel shall be trained in procedures to be followed and the equipment to be used in the containment of a spill.
7. The Spill Contingency Plan shall be posted on site for the duration of the works.

Fuel Storage and Transfer

8. Fuel, lubricants, hydraulic fluids, coolants and similar substances shall be stored and/or transferred a minimum of 30 metres from the Natural Boundary of any Watercourse, in such a way that said substances are not deposited in or allowed to be deposited in waters.

Annual Reports

9. The Licensee shall submit annual reports to the Board. The initial report shall be from the effective date of the licence to December 31 and shall be submitted to the Board on or before March 31, 2011. Subsequent reports shall be submitted to the Board on or before March 31 of the year following the year reported.
10. On or before the anniversary of the date of issuance of this licence, and for each year during which this licence is in effect, the Licensee shall submit an annual report to the Board. The report shall include the information required by the Regulation including, but not necessarily limited to:
 - a) a description of the water use operations carried out during the year reported;
 - b) the quantity and size of rip-rap used;
 - c) any reclamation to the site;
 - d) the inspection results, including photographs, repairs or plans for modification; and
 - e) a detailed record of any major maintenance work carried out or planned to be carried out that could have an impact on water.

Reports

11. All reports required to be submitted to the Board will be unbound and reproducible by standard photocopier, accompanied by one electronic copy on a CD/DVD.
12. The Licensee shall provide to the Board 5 additional copies of all reports. The additional copies may be either 5 bound paper copies or 5 electronic copies on individual CDs/DVDs.
13. Electronic copies shall be IBM compatible in one of the following formats: Word 97 - 2003, Excel 97 - 2003 workbooks, or Adobe .pdf format. Water quality results must be presented in Excel 97-2003 .xls format.

Term of Licence

14. The term of this licence is for the period from the effective date to August 4, 2035.

PART C - OPERATING CONDITIONS

15. The Licensee is hereby authorized to:
- a) construct a clear-span bridge across Crooked Creek;
 - b) ford Crooked Creek during construction;
 - c) conduct long-term maintenance of a clear-span bridge across Crooked Creek;
 - d) conduct intermittent deactivation and reactivation of the bridge deck;
 - e) construct earthworks and erosion protection,

as described in the Application, and subject to the conditions of this licence. Where there is a discrepancy between the Application and this licence, the conditions of this licence shall prevail.

16. Notification, including the name and phone number of the field supervisor, shall be provided to the Board, in writing, 10 days prior to the start of any construction, including deactivation and/or reactivation of the bridge deck.

PART D - DESIGN AND CONSTRUCTIONDesign

17. Ten days prior to the commencement of construction, the Licensee shall submit to the Board final detailed design construction drawings for the bed and bank modifications. The final detailed design drawings must be consistent with the drawings which were submitted as part of the Application and sealed by a Professional Engineer licensed to practice in Yukon. All construction shall be carried out in accordance with the final design drawings.
18. Within 60 days of placement across Crooked Creek, the Licensee shall submit to the Board, as-built design drawings of the bridge structure, sealed by a Professional Engineer licensed to practice in the Yukon.
19. Where site conditions require minor modifications to the designs submitted to the Board, the Licensee shall notify the Board, a minimum of 10 days in advance, of the details of the modifications or variations from final detailed design, specifications and quality assurance/quality control procedures previously submitted to the Board, provide a detailed construction schedule and the name and contact number(s) of the construction superintendent. The notice shall be in writing and must include an explanation of the

reasons for the change and an assessment of the potential impact on the performance of the works. The notice shall be sealed by a Professional Engineer licensed to practice in Yukon.

Construction

20. All works associated with the undertaking shall be maintained in good repair.
21. Construction and/or maintenance equipment shall be mechanically sound and free of leaks.
22. Granular bedding and backfill material shall consist of non-frozen material.
23. All water withdrawn from the abutment excavation shall be deposited into a constructed sump and/or a natural depression.
24. For the excavation of the abutments, the Licensee shall install or construct non-erodible cofferdams, silt barriers, or other suitable methods to control siltation downstream of the work area.
25. Excavated material shall be deposited to a Waste disposal area a minimum of 10 horizontal metres beyond the Natural Boundary of Crooked Creek.
26. Material excavated from the watercourse must be deposited in the Waste disposal area in such a manner as to remain in a stable condition.
27. Waste substances shall be used, transported, stored or disposed of in such a manner that they are not deposited, or allowed to be deposited, into any Watercourse or on any surrounding land, unless authorized by this licence.
28. Except as authorized by this licence, no Waste shall enter any Watercourse as a result of any operation carried out by the Licensee.
29. All disturbed ground surfaces shall be stabilized in such a manner so as to prevent erosion and surface runoff from carrying sediment into any Watercourse.

Fording

30. No heavy equipment shall be operated within the horizontal extent of the water level of the river except for equipment fording the watercourse.
31. The Licensee shall adhere to the following conditions when fording the Watercourse:
 - a) Fording of the Watercourse shall not occur between May 15 and June 15, and between July 15 to August 31 unless permission to ford is obtained from the Department of Fisheries and Oceans; and

- b) All crossings shall be at a right angle to the Watercourse; and
- c) Removal of vegetation adjacent to the crossings shall be minimized; and
- d) Non-erodible materials shall be placed up the bank on both sides of the crossing to stabilize the banks; and
- e) The Watercourse crossings approaches shall be low and stable enough to support the vehicles and equipment; and
- f) The Watercourse shall be crossed on either a firm rock bottom or a coarse gravel bottom; and
- g) Equipment crossing the Watercourse shall be mechanically sound and free of leaks; and
- h) The blade or bucket on equipment shall be raised above the Wetted Perimeter while crossing any Watercourse.

Water Pumps

32. The Licensee shall provide barriers consisting of fish guards, screens, coverings or nets on all water intakes as follows:
- a) Screens or nets shall have a minimum of 3.5 openings per centimetre and openings no greater than 3.2 millimetres along any given side.
 - b) If a punch plate or similar material is used, openings shall be no greater than 3.2 millimetres in length or width.
 - c) There shall be no less than 929 square centimetres of open screen for every 205 litres per minute being withdrawn.
 - d) The barriers shall be monitored and maintained to ensure that they function effectively at all times when water is being withdrawn.
 - e) The barriers shall be designed and installed in such a manner that the screen is submerged and a uniform flow distribution is maintained through the total screen area.
 - f) Water shall not be withdrawn when the barrier is removed for renewal, repair or inspection.
 - g) The Licensee shall cease pumping or decanting and take remedial action if there is alteration to the bed or bank of the water channel.

Rip-rap

33. Rip-rap shall be hard, dense, angular, non acid-generating quarry stone or boulders, free of seams, cracks, structural defects and contaminants, freeze-thaw resistant, non-slaking and free of fine-grained materials including silt and sand. Rip-rap gradation will conform to the specifications provided in the Application.

Signage

34. The Licensee shall post signs on or near the bridge structure that reflects the load limit.

PART E - SITE DECOMMISSIONING AND RESTORATION

35. All disturbed ground surfaces shall be regraded in a manner which is consistent with the topography of the site and which prevents erosion and surface runoff from carrying sediment into any Watercourse. Where soil conditions permit, disturbed areas shall be re-vegetated with appropriate reclamation seeds and/or plant species that are native in Yukon.
36. All construction materials, equipment, temporary structures and debris shall be removed from the site upon completion of the work.
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