

POWER PURCHASE AGREEMENT

This POWER PURCHASE AGREEMENT, (“Agreement”), effective as of that last date of signature provided below, is by and between **Richmond Irrigation Company** (“Owner”) as a Class II – 150 to 1,000 kW generator, and **Hyrum City, Utah** (“Utility”).

RECITALS:

WHEREAS, Utility owns, directly or indirectly, an electric power distribution network within the municipal boundaries of the Hyrum City, Utah, ("Network"); and

WHEREAS, Utility desires that Owner install, maintain and operate, and Owner desires to install, maintain and operate the generating facility System to be interconnected into the Network via the Transmission Network on property owned or leased by Owner, as more fully described in Exhibit A hereto, ("Site"); and

WHEREAS, Utility will accept title to all electric energy ("Energy") generated by Owner and delivered to the Delivery Point, which Energy will be sold to Utility; and

WHEREAS, Owner desires to sell, and Utility desires to purchase, the Environmental Attributes (as defined herein) generated by the System and other services pursuant to the terms and conditions set forth herein; and

WHEREAS, Utility desires to facilitate a transmission agreement with PacifiCorp to wheel Owner’s generated power from the Delivery Point to the Network, including responsibility for all associated charges.

NOW THEREFORE, in consideration of the mutual promises set forth below, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

AGREEMENT

1. Definitions. Unless otherwise required by the context in which any term appears:

(a) capitalized terms used in this Agreement shall have the respective meanings set forth in this Section 1; (b) the singular shall include the plural and vice versa; (c) the word "including" shall mean "including, without limitation", (d) references to "Sections" and "Exhibits" shall be to sections and exhibits hereof; (e) the words "herein," "hereof " and "hereunder" shall refer to this Agreement as a whole and not to any particular section or subsection hereof; and (f) references to this Agreement shall include a reference to all exhibits hereto, as the same may be amended, modified, supplemented or replaced from time to time.

“Agreement” shall have the meaning set forth in the recitals.

“Applicable Law” shall mean, with respect to any Governmental Authority, any constitutional provision, law, statute, rule, regulation, ordinance, treaty, order, decree, judgment, decision, certificate, holding, injunction, registration, license, franchise, permit, authorization, guideline, governmental approval, consent or requirement of such Governmental Authority, enforceable at law or in equity, along with the interpretation and administration thereof by any Governmental Authority.

“Budget Non-Appropriation Event” shall have the meaning set forth in Section 7.2.

“Commercial Operation” shall mean the production of Energy by Owner which is available for purchase pursuant to the terms of the Agreement, including satisfaction of all Conditions, as set forth in Section 3.3.1.

“Commercial Operation Date” shall mean, subject to verification by Utility, the date on which Owner notifies Utility of Owner’s declaration that all conditions set forth in Section 3.3 have occurred or otherwise been satisfied.

“Contractor” shall mean Owner and any third-party contractor, subcontractor, or assignee.

“Delivery Point” shall mean the point of electrical interconnection of the Site and the Transmission Network, as shown on Exhibit A.

“Energy” shall have the meaning set forth in the Recitals.

“Environmental Attributes” means the characteristics of electric power generation of the System that have intrinsic value, separate and apart from the Energy, arising from the environmental benefits of the System or the Energy, including but not limited to all environmental and other attributes that differentiate the System or the Energy from energy generated by fossil-fuel based generation units, fuels or resources, characteristics of the System that may result in the avoidance of environmental impacts on air, soil or water, such as the absence of emission of any oxides of nitrogen, sulfur or carbon or of mercury, or other gas or chemical, soot, particulate matter or other substances attributable to the System or compliance with laws or regulations involving or administered by the Clean Air Markets Division of the Environmental Protection Agency or successor administrator or any state or federal entity given jurisdiction over a program involving transferability of rights arising from Environmental Attributes and Reporting Rights, including all RECs; provided, however, that "Environmental Attributes" shall not include any investment tax credits (including any grants or payments in lieu thereof) and any tax deductions or other benefits under the Internal Revenue Code or applicable federal, state, or local law available as a result of the ownership and operation of the System or the output generated by the System (including, without limitation, accelerated and/or bonus depreciation).

“Estimated Annual Production” shall mean the annual estimate of Energy as set forth in Exhibit B hereto.

“Expiration Date” shall have the meaning set forth in Section 8.1.

“Force Majeure Event” shall have the meaning set forth in Section 7.1.

“Generating Facility Electrical Interconnection Agreement” shall mean the Generating Facility Electrical Interconnection Agreement between PacifiCorp and Owner authorizing the interconnection of the System and available for contribution to the Network via the Transmission Network.

“Governmental Authority” shall mean any federal, state, regional, county, town, city, or municipal government, whether domestic or foreign, or any department, agency, bureau, or other administrative, regulatory or judicial body of any such government, including Hyrum City.

“Installation Work” shall mean all work performed by Owner in connection with the furnishing, installation, testing and commissioning of the System.

“kWh Rate” shall have the meaning set forth in Section 5.1.

“Monthly Period” shall mean the period commencing on the Commercial Operation Date and ending on the last day of the month in which the Commercial Operation Date occurs, and, thereafter, all subsequent one (1) month periods during the Term.

“Monthly Production” shall mean, for each Monthly Period, the amount of Energy from the System delivered during such Monthly Period to the Delivery Point.

“Network” shall have the meaning set forth in the Recitals.

“O&M Work” shall have the meaning set forth in Section 4.1.

“Owner” shall have the meaning set forth in the Recitals. For purposes of access rights and other rights necessary for Owner to perform its obligations hereunder, the term "Owner" shall include Owner's authorized agents, contractors and subcontractors.

“Owner Default” shall have the meaning set forth in Section 9.1.

“Party” shall mean each of Utility and Owner.

“Person” shall mean any individual, corporation, partnership, company joint venture, association, trust, unincorporated organization or Governmental Authority.

“Renewable Energy Credits (RECs)” shall mean a tradable, non-tangible energy commodity in the United States that represents proof that 1 megawatt-hour (MWh) of electricity was generated from an eligible renewable energy resource towards compliance with the Utah renewable energy standard as set forth in C.R.S. § 40-2-124, as may be amended from time to time.

“Replacement Costs” means an amount equal to the present value of the economic loss to a Party, attributable to early termination of the Agreement, limited to the twelve months following the Termination Date, determined in a commercially reasonable manner.

For Utility, commercially-reasonable Replacement Costs include incremental costs suffered by Utility to replace the Estimated Annual Production and/or Environmental Attributes that Owner fails to deliver under this Agreement, including the amounts paid or incurred by Utility for replacement capacity, replacement energy, transmission and ancillary services associated with delivery of replacement capacity and energy and directly associated transaction costs. As a point of reference for current estimated Replacement Costs, the rate charged by Utility's under Tariffs 1 and 7 ("Resale Power" and "Renewable Energy Premium") for all such costs is \$0.040 per kWh. In the event of Owner termination prior to Commercial Operation Date, Replacement Costs for the Utility shall be limited to the following flat fee:

- i) Class I systems, \$400 per Utility hydroelectric power generation account rated under 150 kW ("Account");
- ii) Class II systems, a fee per Account calculated as \$5 per rated kilowatt from 150 to 1000 kW.

For Owner, commercially reasonable Replacement Costs include the amounts Utility would have paid over the subsequent twelve months for the Estimated Annual Production and Environmental Attributes, had the same been delivered as reflected on Exhibit C.

For either Party, Replacement Costs may include reasonable attorneys' fees suffered as a result of the early termination of the Agreement.

“Reporting Right” means the right to report ownership of Environmental Attributes (including RECs) in compliance with federal or state law, if applicable, and to a federal or state agency or any other party, and include Green Tag Reporting Rights accruing under Section 1 605(b) of The Energy Policy Act of 1992 and any present or future federal, state, or local law, regulation or bill, and international or foreign emissions trading program.

“Site” shall have the meaning set forth in the Recitals and depicted on the attachments hereto.

“Class I” shall mean a hydroelectric generation system with the combined rated capacity less than 150 kW.

“Class II” shall mean a hydroelectric generation system with a combined rated capacity between 150 kW and 1,000 kW.

“State” shall mean the State of Utah.

“System” shall mean the hydroelectric turbine-generating system designed and installed pursuant to this Agreement at the Site and more fully described in Exhibit B hereto.

“Term” shall have the meaning set forth in Section 8.1.

“Termination Date” shall have the meaning set forth in Section 8.1.

“Transmission Network” shall mean PacifiCorp’s infrastructure that the System will be interconnected to and will convey the generated power from the Delivery Point to the Network.

“Utility” shall have the meaning set forth in the Recitals.

“Yearly Period” shall mean the period commencing on the Commercial Operation Date and ending on the last day of March within the twelve-month period in which the Commercial Operation Date occurs, and, thereafter, all subsequent one (1) year periods during the Term.

“Yearly Production” shall mean, for each Yearly Period, the amount of Energy from the System delivered during such Yearly Period to the Delivery Point.

2. **Purchase and Sale of Energy and Environmental Attributes.** During the Term of this Agreement, Owner shall sell, and Utility shall purchase, all Energy of the System delivered by Owner to the Delivery Point. During the Term of this Agreement, Owner will also provide the Environmental Attributes associated with all Energy generated by the System to Utility and Utility will accept all such Environmental Attributes in accordance with the terms and conditions set forth herein. Owner shall provide Utility with access to the Site in such that Utility can operate and maintain metering equipment.
3. **Construction, Installation and Testing of System.** With respect to the Site on which the System is to be installed:
 - 3.1 **Detailed Engineering.** Owner shall prepare and submit to Utility engineering drawings showing the plan and array configuration for the Site, detailed plans of all structures, electrical systems, interfaces with the grid electricity supply and any necessary facility or utility infrastructure improvements and/or modifications.
 - 3.2 **Installation.** Owner will cause the System to be designed, engineered, installed, and constructed substantially in accordance with the terms of this Agreement and in compliance with local building codes and utility standards, including but not limited to the Generating Facility Electrical Interconnection Agreement. Owner shall organize the procurement of all materials and equipment for the Installation Work and maintain the same at the Site as necessary.
 - 3.3 **Condition to Commercial Operation.** Owner shall notify Utility in writing when the System is ready for commercial production of Energy under this Agreement and interconnection with the Transmission Network. This notification is contingent upon verification of the satisfaction or occurrence of all the conditions set forth in this Section ("Conditions") and Owner providing evidence of such satisfaction or occurrence reasonably acceptable to Utility. The parties agree that review and approval

of such Conditions may occur on an ongoing and incremental basis, pending resolution of any disputes, as such Conditions are satisfied.

3.3.1 The Conditions are as follows:

3.3.1.1 Owner has successfully completed that testing of the System that is required by any financing documents, government permits, the City's parallel generation interconnection standards (as applicable), the Generating Facilities Electrical Interconnection Agreement, and manufacturers' warranties for the commencement of commercial operation of the System;

3.3.1.2 The System has met the interconnection requirements for PacifiCorp and has achieved initial synchronization with the Transmission Network, and has demonstrated reliable communications within the System and with PacifiCorp interconnection monitoring equipment, as well as Utility metering equipment;

3.3.1.3 Certificates of insurance evidencing appropriate coverage have been obtained and submitted to Utility, as necessary; and

3.3.1.4 Owner has made all necessary governmental filings and/or applications for Environmental Attributes and other system accreditations.

4. **Operation and Maintenance of System.**

4.1 **O&M Work.** Owner, at its sole cost and expense, shall provide all spare parts, System operation, repair, monitoring, and maintenance services for Owner-installed equipment for the Term of this Agreement, excluding any monitoring and maintenance of metering equipment placed by Utility to determine the quantity of electricity produced by the System (collectively, the "O&M Work").

4.2 **Metering.**

4.2.1 **Maintenance and Testing.** Utility shall install and maintain a utility-grade kilowatt-hour ("kWh") meter ("Meter") on the Site for the measurement of Energy generated by the System at the Site, which shall measure the kWh output of the System on a continuous basis for purposes of determining the Yearly Production. Owner shall be allowed to observe any Meter test, and Utility shall provide notice of the testing to Owner at least ten (10) days prior to the test date. Owner shall reimburse Utility for the cost of additional tests requested by Owner, unless such testing demonstrates that the Meter was operating outside of industry-standard tolerance allowances or an adjustment is required under Section 4.2.2.

- 4.2.2 **Adjustments.** If testing of a Meter pursuant to Section 4.2.1 indicates that such Meter is in error by more than two percent, Utility shall promptly repair or replace such Meter. Utility shall make a corresponding adjustment to the records of the amount of Energy based on such test results for (a) the actual period of time when such error caused inaccurate meter recordings, if such period can be determined by Utility, or (b) if such period cannot be so determined, then a period equal to one-half of the period from the later of (i) the date of the last previous test confirming accurate metering and (ii) the date the Meter was placed into service; provided, however, that such period shall in no case exceed two years.
- 4.3 **Title to System.** Owner, or Owner's permitted assigns, shall at all times retain title to, and be the legal and beneficial owner of, the System, including the right to any tax credits available under federal or state law, and the System shall remain the property of Owner or Owner's assigns. Owner shall not transfer title to another entity without prior written notification to Utility and written Utility approval, which approval shall not be unreasonably withheld, or except as provided in Section 11.3.
- 4.4 **Compliance with Utility Specifications.** The Owner agrees to furnish, install, operate, and maintain its interconnection as required by PacifiCorp interconnection standards, and agrees to meet the requirements of such policies and procedures, as amended from time to time.
- 4.5 **Title and Risk of Loss.** Title to, and risk of, loss related to the Energy shall transfer from Owner to Utility at and after the Delivery Point. Title to, and risk of, loss related to the Environmental Attributes associated with Energy from the System shall transfer from Owner to Utility upon delivery of the associated Energy to the Delivery Point.
5. **Purchase of Energy and Environmental Attributes.** With respect to the System installed on the Site pursuant to this Agreement.
- 5.1 **Purchase Entitlement.** In addition to all Energy from the System delivered to the Delivery Point, Utility shall be entitled to 100 percent of the Environmental Attributes generated by the System. Energy production shall be metered and verifiable by Utility's personnel. While the Energy and Environmental Attributes are calculated and billed on a per-kWh basis (the "kWh Rate") as set forth in Exhibit C, attached hereto and incorporated by this reference, they represent a package of services as described in the definitions herein. The payments for that package of services, as provided for in this Agreement, are calculated to include all of the defined services in the kWh Rate. Neither Utility nor Owner may claim that by this Agreement, Owner is an electric utility subject to regulation as an electric utility or subject to regulated electricity rates. Owner shall not claim to be providing electric utility services to Utility.
- 5.2 **Purchase Rate.** The fee structure and method of compensation shall be as shown in Exhibit C.

5.3 **Environmental Attributes.**

5.3.1 Owner shall transfer and assign title of Environmental Attributes, including all RECs, and Reporting Rights to Utility. At Utility's request, Owner shall provide evidence of Owner's transfer and assignment of right, title, and interest in and to the Environmental Attributes.

5.3.2 Owner will at all times retain all tax credits and depreciation association with the System.

6. **Billing and Payment.** Billing and payment for the Energy and Environmental Attributes sold and purchased under this Agreement and any other amounts due and payable hereunder shall be as follows:

6.1 **Billing.** Owner shall not be required to submit invoices or billing to the Utility for Monthly or Yearly Production. Utility shall monitor, via the Meter at the Delivery Point, all Energy delivered by the System in each Monthly Period during the Term of this Agreement, and make appropriate payments, as set forth in Section 6.2.

6.2 **Payments.** Utility shall pay to Owner for each Monthly Period during the Term within thirty (30) business days after close of the Monthly Period beginning the first day of each month for the Energy delivered by the System during each such Monthly Period equal to the product of (a) Monthly Production for the System for the relevant month, multiplied by (b) the relevant kWh Rate for Energy and Environmental Attributes relating to the System as set forth on Exhibit C, which payment shall be made by check or by wire transfer of immediately-available funds to Owner or to such assignee as Owner shall designate in writing to Utility. This payment fully compensates Owner for all Energy and Environmental Attributes produced by the System.

7. **Force Majeure.**

7.1 **Definition of Force Majeure Event.** For the Agreement, an act or event is a "Force Majeure Event" if such act or event is beyond the reasonable control, and not the result of the fault or negligence, of the affected Party and such Party had been unable to overcome such act or event with the exercise of due diligence. Subject to the foregoing conditions, "Force Majeure Event" shall include the following acts or events: (i) natural phenomena, such as storms, hurricanes, floods, lightning and earthquakes; (ii) explosions or fires arising from lightning or other causes unrelated to the acts or omissions of the Party seeking to be excused from performance; (iii) acts of war or public disorders, civil disturbances, riots, insurrection, sabotage, epidemic, terrorist acts, or rebellion; (iv) strikes or labor disputes; (v) action by a Governmental Authority, including a moratorium on any activities related to this Agreement; (vi) the impossibility for one of the Parties, despite reasonable efforts, to obtain any approval necessary to enable the affected Party to fulfill its obligations, provided that the impossibility is not attributable to the Party and that such Party has exercised

reasonable efforts to obtain such approval; and (vii) a Budget Non-Appropriation Event as described in Section 7.2.

7.2 **Non-Appropriation.** For Utility, due to constitutional and charter limitations pertaining to multiple-year contracts, a Force Majeure Event shall include a Budget Non-Appropriation event in which Utility Budget of any year covered in this Agreement does not appropriate funds for the procurement of parallel generation services for the Utility ("Budget Non-Appropriation Event"). Upon occurrence of a Budget Non-Appropriation Event, the obligation of Utility to pay for the Energy in accordance with Section 6.2 shall be suspended for the Force Majeure period. Utility agrees it shall use its best efforts to seek appropriation for parallel generation services during the term of this Agreement. Utility will notify Owner no later than June 30th of the fiscal year if a Budget Non-Appropriation Event has occurred.

7.3 **Termination in Consequence of Force Majeure Event.** If a Force Majeure Event shall have occurred that has affected a Party's performance of its obligations hereunder and that Force Majeure Event has continued for a period of 365 consecutive days, then the non-affected Party shall be entitled to terminate this Agreement upon 30 days' prior written notice to the other Party. If at the end of such 30-day period such Force Majeure Event shall still continue, this Agreement shall automatically terminate. Upon such termination for a Force Majeure Event, neither Party shall have any liability to the other. By mutual agreement of the Parties, the System damaged or destroyed by a Force Majeure Event may be replaced by Owner within the time frames set forth above and subsequent to replacement and upon commencement of operation of the replacement System all terms and conditions of this Agreement will remain in effect. Notwithstanding any other provision hereunder to the contrary, following the conclusion or resolution of any Force Majeure Event, the parties agree that to the extent possible, the Term of this Agreement shall be extended as necessary to preserve the rights, obligations and economic benefits of Owner and Utility hereunder. If during a Budget Non-Appropriation Event, Utility continues to receive Energy and Environmental Attributes from Owner, then upon the conclusion of such event, Utility shall pay for such Energy and Environmental Attributes.

8. **Term; Utility Options; Termination.**

8.1 **Term.** The operating term of this Agreement shall commence on the Commercial Operation Date and shall expire on the date ("Expiration Date") that is 20 years after the Commercial Operation Date ("Term"), unless and until terminated earlier with respect to the Site pursuant to Sections 7.3, 8.2, 8.3, or 9.3 (the date of any such termination, "Termination Date") of this Agreement or unless extended pursuant to Section 8.2.

8.2 **End or Extension of Term.**

8.2.1 **Extension of Term.** Upon prior written notice to Owner of at least 180 days, and no time earlier than 5 years prior to the Expiration Date, Utility shall

have the option to renew the Term of this Agreement for 2 additional 5-year periods under terms and conditions acceptable to the Parties, including, but not limited to, setting a new power purchase rate.

8.2.2 **Early Termination or End of Term without Extension.** Upon expiration of the Term without notice of extension by Utility, ownership of Energy and Environmental Attributes shall revert to Owner, and where feasible and at Owner's election, (i) Owner will have the option to operate the system as a net-metered system, subject to the interconnection and parallel generation standards in place at that time, (ii) Utility will continue to purchase power upon separate agreement with Owner on terms and conditions acceptable to the Parties, including but not limited to setting a new power purchase rate, or (iii) Owner may sell power to a separate entity upon separate agreement.

8.3 **Utility Termination for Convenience.** Utility may not terminate this Agreement prior to the Commercial Operation Date. After the Commercial Operation Date, Utility may terminate this Agreement at any time following the fifth year of the Term by giving Owner written notice 30 days prior to the intended termination date, subject to the Owner's right to recover from Utility any Replacement Costs, calculated as of the Termination Date. Upon early termination by Utility, ownership of Energy and Environmental Attributes shall revert to Owner.

8.4 **Owner Termination for Convenience.** Prior to the Commercial Operation Date, Owner may terminate this Agreement at any time upon written notice to Utility, which termination shall be effective 30 days after the receipt of such notice, subject to Utility's right to recover from Owner any Replacement Costs, calculated as of the date of termination. After the Commercial Operation Date, Owner may terminate this Agreement at any time following the fifth year of the Term by giving Utility written notice 30 days prior to date of Owner's intention to terminate, subject to Utility's right to recover from Owner any Replacement Costs, calculated as of the Termination Date. The Parties agree damages would be difficult to quantify upon an early termination and agree that any component of Replacement Costs that is characterized as an "early termination fee" is not a penalty.

9. **Default.**

9.1 **Owner Defaults.** The following events shall constitute events of default with respect to Owner ("Owner Default"):

9.1.1 If Owner fails to generate and deliver any useful amount of Energy and/or Environmental Attributes after the Commercial Operation Date as contemplated in this Agreement (though it shall not be an Owner's default if the System does not achieve the Estimated Annual Production, but otherwise continues to deliver useful Energy consistent with this Agreement) and (i) if such condition can be cured within 30 days after Utility's notice of such event and Owner fails to so cure, or (ii) Owner fails to commence and pursue said

cure within such 30-day period if a longer cure period is needed; provided that the Owner provides the Utility with notice of the expected time it will take to cure the breach and such timeframe is not greater than 365 days; or

9.1.2 If Owner is unable to achieve a Commercial Operation Date at the Site within six months of the execution of this Agreement for a Class I system, or twelve months of the execution of this Agreement for a Class II system (“System Delivery Period”);

9.1.3 If Owner files or is adjudged bankrupt or fails to demonstrate the ability to perform under the Agreement, following the filing or adjudication of a bankruptcy proceeding.

9.2 **Utility Defaults.** The following events shall constitute events of defaults with respect to Utility (“Utility Default”):

9.2.1 Utility fails to pay Owner any amount due Owner under this Agreement within thirty (30) days from receipt of notice from Owner of such past due amount; or

9.2.2 Utility refuses to sign documents needed to obtain any federal, state or utility incentives or tax benefits or refuses to sign or intentionally breaches any term of this Agreement or the transmission agreement required by PacifiCorp for delivery of the power generated by the System.

9.3 **Remedies.**

9.3.1 If an Owner Default or a Utility Default has occurred, the non-defaulting Party shall have the right to: (a) send notice, designating a day, no earlier than 5 days after such notice and no later than 20 days after such notice, as the Termination Date of this Agreement; (b) accelerate all amounts owing between the Parties; (c) terminate this Agreement and end the Term effective as of the Termination Date; and (d) if the default is after Commercial Operation, collect any Replacement Costs, which shall be paid on the Termination Date. Notice by Utility shall inform the Owner that upon the Termination Date, Owner is to stop or terminate all work or performance under this Agreement. After receipt of a notice of termination, and except as otherwise directed by Utility, the Owner shall stop work under this Agreement on the date specified in the notice of termination. Each Party shall have a duty to mitigate any damages or Replacement Costs due under this Agreement upon any termination. Any obligations to terminate performance under this Agreement shall be without prejudice to Owner's rights to exercise its option to operate the System as a net-metered system or enter into a new power purchase agreement, as provided in Section 8.2.2.

9.3.2 Upon a default prior to the Commercial Operation Date, the non-defaulting Party shall not be entitled to Replacement Costs other than the flat fee provided in Section 1. In addition, upon Owner Default for failure to achieve the Commercial Operation Date within the applicable System Delivery Period, Owner shall forfeit any deposit previously paid by Owner to Utility.

9.4 **Actions to Prevent Injury.** If any Utility Default or Owner Default creates an imminent risk of damage or injury to any Person or any Person's property, then in any such case, in addition to any other right or remedy that the non-defaulting Party may have, the non-defaulting Party may (but shall not be obligated to) take such action as the non-defaulting Party deems appropriate, which may include disconnecting and removing all or a portion of the System, or suspending the supply or receipt of Energy from the System, as applicable.

9.5 **No Consequential Damages.** Nothing in this Agreement is intended to cause either Party to be, and neither Party shall be, liable to the other Party for any lost business, lost profits or revenues from others or other special or consequential damages, all claims for which are hereby irrevocably waived by Utility and Owner. Notwithstanding the foregoing, none of the payments for Environmental Attributes or any other amount specified as payable by Utility to Owner under the terms of this Agreement upon the termination of this Agreement shall be deemed consequential damages.

9.6 **Effect of Termination of Agreement.** Upon the Termination Date or the Expiration Date, as applicable, any amounts then owing by a Party to the other Party shall become immediately due and payable and the then future obligations of Utility and Owner under this Agreement shall be terminated (other than the indemnity and responsibility obligations set forth in Section 10). Such termination shall not relieve either Party from obligations accrued prior to the effective date of termination or expiration.

10. **Indemnification and Defense.**

10.1 Each Party ("Indemnifying Party") agrees that it shall indemnify and hold harmless the other party, their permitted successors and assigns and their respective directors, officers, members, shareholders and employees (each an "Indemnified Party" and collectively, the "Indemnified Parties") from and against any and all losses incurred by the Indemnified Parties, including costs and reasonable attorney fees, to the extent arising from or out of the following: (i) any claim for, or arising out of, any injury to or death of any person or loss or damage to property of any person to the extent arising out of the Indemnifying Party's acts or omissions; (ii) any infringement of patents or the improper use of other proprietary rights by an Indemnifying Party or its employees or representatives that may occur in connection with the performance of this Agreement; and (iii) with respect to Owner, Utility agrees to indemnify Owner and any Owner-Indemnified Party from and against any and all losses arising from any claim asserting that the transfer of title to Energy by Owner is ineffective. An Indemnifying Party shall not, however, be required to reimburse or indemnify any Indemnified Party for any loss to the extent such loss is due to the negligence or willful misconduct of any Indemnified Party. The liability of Utility is governed, limited and controlled by

the Governmental Immunity Act, Colo. Rev. Stat. §§ 24-10101 *et seq.*, as now or hereafter amended. Nothing in this Agreement shall be construed as a limitation or waiver of the immunities, limits, or protections provided under said Act.

11. **Miscellaneous Provisions.**

11.1 **Notices.** All notices, communications and waivers under this Agreement shall be in writing and shall be (a) delivered in person or (b) mailed, postage prepaid, either by registered or certified mail, return receipt requested, (c) sent by reputable overnight express carrier, or (d) sent via electronic mail with receipt requested, addressed in each case to the addresses set forth below, or to any other address either of the parties to the Agreement shall designate in a written notice to the other Party:

If to Owner:

Richmond Irrigation Company
P.O. Box 156
Richmond, UT 84333
Attention: Kip Panter
Phone: (435) 757-6424
kpanter449@gmail.com

If to Utility:

Hyrum City Electric Department
60 West Main
Hyrum, UT 84319
Attention: Electric Utility
Phone: (435) 245-6033

All notices, communications and waivers under this Agreement, if applicable, to any Person who has or will provide financing for this Agreement pursuant to Section 11 shall be to the name and address specified in a notice from Owner to Utility, which Utility shall acknowledge. All notices sent pursuant to the terms of this Section 11.1 shall be deemed received (i) if personally delivered, then on the date of delivery, (ii) if sent by reputable overnight, express courier, then on the next business day immediately following the day sent, (iii) if sent by registered or certified mail, then on the earlier of the third business day following the day sent or when actually received, or (iv) if sent by electronic mail, then on the date of delivery as indicated by time stamp.

11.2 **Authority.**

11.2.1. **Owner Representations.** Owner hereby represents and warrants that: (i) This Agreement is a legal, valid, and binding obligation of Owner enforceable against Owner in accordance with its terms, subject to the qualification, however, that the enforcement of the rights and remedies herein is subject to (a) bankruptcy and other similar laws of general application affecting rights and remedies of creditors and (b) the application of general principles of equity (regardless of whether considered in a proceeding in equity or at law);

(ii) To the best knowledge of Owner, as of the date of execution hereof, no approval of a Governmental Authority (other than any approvals that have been previously obtained or disclosed in writing to Utility) is required in connection with the due authorization, execution, and delivery of this Agreement by Owner or the performance by Owner of its obligations hereunder which Owner has reason to believe that it will be unable to obtain in due course on or before the date required for Owner to perform such obligations; (iii) As of the date of execution hereof, Owner (a) has taken all actions required of it under the terms of this Agreement, (b) is not intending to dedicate its property to public use, (c) is not a "public utility" and (d) is not an electric utility subject to rate regulation by any Governmental Authority; (iv) Neither the execution and delivery of this Agreement by Owner nor compliance by Owner with any of the terms and provisions hereof (a) conflicts with, breaches or contravenes the provisions of the Articles of Organization or any operating agreement of Owner or any contractual obligation of Owner or (b) results in a condition or event that constitutes (or that, upon notice or lapse of time or both, would constitute) an event of default under any material contractual obligation of Owner.

11.2.2. **Utility Representations.** Utility hereby represents and warrants that: (i) It is a legally and regularly created, established, organized, and existing homerule municipal governmental unit, which municipality duly exists under the laws of the State and has all requisite power and authority to enter into this Agreement, to perform its obligations hereunder, and to consummate the transactions contemplated hereby; (ii) The execution and delivery of this Agreement and the performance of its obligations hereunder have been duly authorized by all necessary action; (iii) This Agreement is a legal, valid and binding obligation of Utility enforceable against Utility in accordance with its terms, subject to the qualification, however, that the enforcement of the rights and remedies herein is subject to bankruptcy, reorganization, insolvency, moratorium, or other laws of equitable principles affecting the enforcement of creditors' rights; (iv) No approval by a Governmental Authority (other than any approvals which have been previously obtained or disclosed in writing to Owner) is required in connection with the due authorization, execution, and delivery of this Agreement by Utility or the performance by Utility of its obligations hereunder which Utility has reason to believe that it will be unable to obtain in due course; (v) Neither the execution and delivery of this Agreement by Utility nor compliance by Utility with any of the terms and provisions of this Agreement (a) conflicts with, breaches, or contravenes any contractual obligation of Utility, or (b) results in a condition or event that constitutes (or that, upon notice or lapse of time or both, would constitute) an event of default under any contractual obligation of Utility; and (vi) Utility has not entered into any contracts or agreements with any other person regarding the provision of the services contemplated to be provided by Owner under this Agreement.

11.3 Assignment.

11.3.1 **Owner Assignment.** Owner shall not sell, transfer, or assign (collectively, an "Assignment") this Agreement or any interest therein, without the prior written consent of Utility, which consent shall not be unreasonably withheld; provided, however, that Owner is not required to obtain Utility's consent in order to: (a) assign this Agreement to any affiliate of Owner with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of Owner under this Agreement, and undertakes in writing to perform those obligations, or (b) sell, transfer, assign, or pledge its interest in the System or any monies due under this Agreement to a financial institution ("Financial Institution") (provided that Utility will not pay to a third party any monies owed hereunder without the advance written direction of Owner). Utility's consent to any other Assignment shall not be unreasonably withheld if Utility has been provided with reasonable proof that the proposed assignee: (i) has or is prepared to obtain comparable experience and/or capability in operating and maintaining hydroelectric generating systems comparable to the System and providing services required by this Agreement; and (ii) has the financial capability to maintain and operate the System and provide the services required by this Agreement. A direct assignee from Owner of this Agreement (that is not a Financial Institution acquiring an interest pursuant to a security agreement) shall assume in writing, in form and content reasonably satisfactory to Utility, the due performance of all Owner's obligations under this Agreement, including any accrued obligations at the time of the Assignment. A copy of the Assignment agreement, fully executed and acknowledged by the assignee, together with a certified copy of a properly executed corporate resolution (if the assignee be a corporation) authorizing such Assignment agreement shall be sent to Utility not less than ten (10) days before the Contract Date of such Assignment.

11.3.2 **Utility Assignment.** Utility shall not assign its interests in this Agreement, nor any part thereof, without Owner's prior written consent, which consent shall not be reasonably withheld.

11.4 **Financing Accommodations.** Utility acknowledges that upon Owner's financing the acquisition and installation of the System or mortgaging the Site with a Financial Institution, that Owner's obligations under the financing may be secured by, among other collateral, a pledge or collateral assignment of this Agreement and a transfer of an ownership interest in the System (subject to a leaseback from the Financial Institution). In order to facilitate such necessary financing, Utility agrees as follows:

11.4.1 **Consent to Collateral Assignment.** Utility consents to the security assignment by Owner to the Financing Institution of this Agreement, and a transfer of the Owner's right, title, and interest in and to the System to the Financing Institution, provided that such assignment shall not relieve the Owner of its obligations hereunder.

11.4.2 **Financing Institution's Default Rights.** Notwithstanding any contrary term of this Agreement:

11.4.2.1 The Financing Institution, as collateral assignee, shall be entitled to exercise, in the place and stead of Owner, any and all rights and remedies of Owner under this Agreement in accordance with the terms of this Agreement. Financing Institution shall also be entitled to exercise all rights and remedies of secured parties generally with respect to this Agreement and the System.

11.4.2.2 The Financing Institution shall have the right, but not the obligation, to pay all sums due under this Agreement and to perform any other act, duty, or obligation required of Owner hereunder or cause to be cured any default of Owner hereunder in the time and manner provided by the terms of this Agreement plus an additional 15 business days. Nothing herein requires the Financing Institution to cure any default of Owner under this Agreement or (unless the Financing Institution has succeeded to Owner's interests under this Agreement) to perform any act, duty, or obligation of Owner under this Agreement, but Utility hereby gives it the option to do so.

11.4.2.3 Upon the exercise of remedies under its security interest in the System, including any sale thereof by the Financing Institution, whether by judicial proceeding or under any power of sale contained therein, or any conveyance from Owner to the Financing Institution (or any qualified assignee of the Financing Institution as defined below) in lieu thereof, the Financing Institution shall give notice to Utility of the transferee or assignee of this Agreement. Any such exercise of remedies shall not constitute a default under this Agreement.

11.5 **Successors and Assigns.** The rights, powers and remedies of each Party shall inure to the benefit of such party and its successors and permitted assigns.

11.6 **Amendments.**

11.6.1 **In writing.** Any modification, alteration, amendment, change, or extension of any term, provision, or condition of this Agreement permitted by this Agreement shall be made by written amendment to this Agreement, signed by Owner and Utility.

11.6.2 **No oral modification.** No oral modification, alteration, amendment, change, or extension of any term, provision, or condition of this Agreement shall be permitted.

- 11.6.3 **Changes or modification required by Utility.** Notwithstanding any other provision, this Agreement shall, at all times, be subject to such changes or modifications by the Utility as it may, from time to time, direct in the exercise of its jurisdiction, provided that no such changes or modifications i) shall affect the rights, obligations and economic benefits of the Parties hereto or ii) shall be effective without the prior written consent of Owner.
- 11.6.4 **Claim barred after final payment.** No claim by Owner for an adjustment hereunder shall be allowed if written modification of this Agreement is not made prior to final payment under this Agreement.
- 11.7 **Waiver.** The failure by either Party to insist upon the strict compliance with any term, provision, or condition of this Agreement shall not constitute or be deemed to constitute a waiver or relinquishment of that Party's right to enforce the same in accordance with this Agreement. The fact that Utility specifically refers to one provision of the procurement rules or one section of applicable statutes, and does not include other provisions or statutory sections in this Agreement shall not constitute a waiver or relinquishment of Utility's rights or Owner's obligations under the procurement rules or statutes.
- 11.8 **Partial Invalidity.** In the event that any provision of this Agreement is deemed to be invalid by reason of the operation of Applicable Law, Owner and Utility shall negotiate an equitable adjustment in the provisions of the same in order to effect, to the maximum extent permitted by law, the purpose of this Agreement (and in the event that Owner and Utility cannot agree then such provisions shall be severed from this Agreement) and the validity and enforceability of the remaining provisions, or portions or applications thereof, shall not be affected by such adjustment and shall remain in full force and effect.
- 11.9 **Disputes, Governing Law; Venue; Jurisdiction.**
- 11.9.1 Disputes shall be resolved in accordance with the laws of the State, as the same may be amended from time to time.
- 11.9.2 The validity of the Agreement and any of its terms or provisions, as well as the rights and duties of the parties to this Agreement, shall be governed by the laws of the State.
- 11.9.3 Either party may initiate dispute resolution procedures by sending a notice of dispute ("Notice of Dispute"). The parties will attempt to resolve the dispute promptly through good faith negotiations. If the dispute has not been resolved within ten days from the Notice of Dispute, the Parties may proceed to mediation.

- 11.9.4 If a dispute remains unresolved for 60 days after receipt of the Notice of Dispute, either party may submit the Dispute to the courts, as provided in this Section 11.9.
- 11.9.5 Any action at law or in equity to enforce or interpret the provisions of this Agreement shall be brought in the District Court in and for Cache County, Utah, or U.S. District Court in Utah. Each party irrevocably agrees to submit to the exclusive jurisdiction of such courts over any claim or matter arising under or in connection with this Agreement.
- 11.10 **Third Parties.** This Agreement is for the exclusive benefit of the Parties to this Agreement, their successors, and permitted assigns and Persons expressly benefited by the indemnity provisions of this Agreement. No other Person (including, without limitation, tenants of the Site) shall be entitled to rely on any matter set forth in, or shall have any rights on account of the performance or non-performance by any Party of its obligations under this Agreement.
- 11.11 **Relationship of Parties; Independent Contractor Status, Responsibilities.**
- 11.11.1 In the performance of services required under this Agreement, Owner is an "independent contractor," with the authority and responsibility to control and direct the performance and details of the work and services required under this Agreement; however, Utility shall have a general right to inspect work in progress to determine whether, in Utility's opinion, the services are being performed by Owner in compliance with this Agreement. Unless otherwise provided by special condition, it is understood that Utility does not agree to use Owner exclusively, and that Owner is free to contract to provide services to other individuals or entities while under contract with Utility.
- 11.11.2 Owner shall be responsible for payment of all applicable federal, state, and county taxes and fees which may become due and owing by Owner by reason of this Agreement, including but not limited to (i) income taxes, (ii) employment related fees, assessments, and taxes, and (iii) general excise taxes, including any property tax, associated with the equipment. Owner also is responsible for obtaining all licenses, permits, and certificates that may be required in order to perform this Agreement.
- 11.11.3 Owner is responsible for securing all employee-related insurance coverage for Owner and Owner's employees and agents that is or may be required by law, and for payment of all premiums, costs, and other liabilities associated with securing the insurance coverage.
- 11.12 **No Public Utility.** Nothing contained in this Agreement shall be construed as an intent by Owner to dedicate its property to public use or subject itself to regulation as a "public utility" (as defined by Applicable Law).


- 11.13 **Cooperation with Financing.** Utility acknowledges that Owner may be financing the System and/or the Site and Utility agrees that it shall reasonably cooperate with Owner and its financing parties in connection with such financing, including (a) the furnishing of such information, (b) the giving of such certificates, and (c) providing such opinions of counsel and other matters as Owner and its financing parties may reasonably request; provided that the foregoing undertaking shall not obligate Utility to materially change any rights or benefits, or materially increase any burdens, liabilities, or obligations of Utility, under this Agreement (except for providing notices and additional cure periods to the financing parties with respect to Events of Defaults with respect to that which Owner as a financing party may reasonably request).
- 11.14 **Rights and Remedies.** Except as otherwise set forth herein, each Party reserves to itself all rights, counterclaims and other remedies and/or defenses to which it is or may be entitled, arising from or out of this Agreement.
- 11.15 **Precedence.** The provisions of this Agreement shall take precedence over any other document and shall govern the agreement between the Owner and Utility.
- 11.16 **Timely Submission of all Certificates.** All required certificates should be applied for and submitted to Utility as soon as possible. If a valid certificate is not submitted on a timely basis for award of a contract, an offer otherwise responsive and responsible may not receive the award.
- 11.17 **Confidentiality.**
- 11.17.1 All material given to or made available to Owner by virtue of this Agreement, which is identified as proprietary or confidential information, will be safeguarded by Owner and shall not be disclosed to any individual or organization without the prior written approval of Utility.
- 11.17.2 All information, data, or other material provided by Owner to Utility shall be subject to the Utility's information regulations.
- 11.18 **Laws and Regulations.** Owner shall keep itself fully informed of all laws, ordinances, codes, rules and regulations, governmental general and development plans, setback limitations, rights-of-way, and all changes thereto, which in any manner affect the contract and all performance thereof. Owner shall comply with all such present laws, ordinances, codes, rules, regulations, design standards and criteria, governmental general and development plans, setback limitations, rights-of-way, including the giving of all notices necessary and incident to proper and lawful prosecution of the work, and all changes thereto. If any discrepancy or inconsistency is discovered between this Agreement and any such law, ordinance, code, rule, regulation, design standard, design criterion, governmental general and development plan, setback limitation, or right-of-way, Owner shall forthwith report the same in writing to Utility.

- 11.19 **Survival.** The provisions of Sections 1, 7, 8, 9, 10, and 11 shall survive the expiration or termination of this Agreement.
- 11.20 **Entire Agreement.** This Agreement (including all exhibits attached hereto) represents the entire agreement between the parties to this Agreement with respect to the subject matter hereof and thereof and supersedes all prior and contemporaneous oral and prior written agreements. This Agreement may be executed in one or more counterparts, all of which taken together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the parties hereto have duly executed and delivered this Agreement as of the date set forth above.

OWNER: Richmond Irrigation Company

Address: Richmond Irrigation Company
P.O. Box 156
Richmond, Utah 84333

By:  _____
Terry Spackman, President
Date: 4/25/2017

UTILITY: Hyrum City, Utah, a municipal corporation

Address: Hyrum City Electric Department
60 West Main
Hyrum, Utah 84319

By: _____
Hyrum City Administrator

Date: _____

ATTEST:

By: _____
City Recorder

APPROVAL AS TO FORM:

By: _____
City Attorney

EXHIBIT A

DESCRIPTION OF SITE

(Legal and narrative description, including address and aerial photo.)

The System has three turbine-generator units at two sites, Richmond and Coveville. The power generated is combined and interconnected into PacifiCorp's grid at a single Delivery Point located at the Richmond site in Richmond, Utah.

Richmond Site Location (location of interconnection and Delivery Point):

NW corner of the intersection of 400 East and Main Street in Richmond, Utah
SW corner of the NWSW quarter of T14N, R1E, S25 SLB&M

Coveville Site Location:

Approximately 2050 High Creek Road in Cove, Utah
Top middle of the SWNE quarter of T14N, R1E, S13 SLB&M

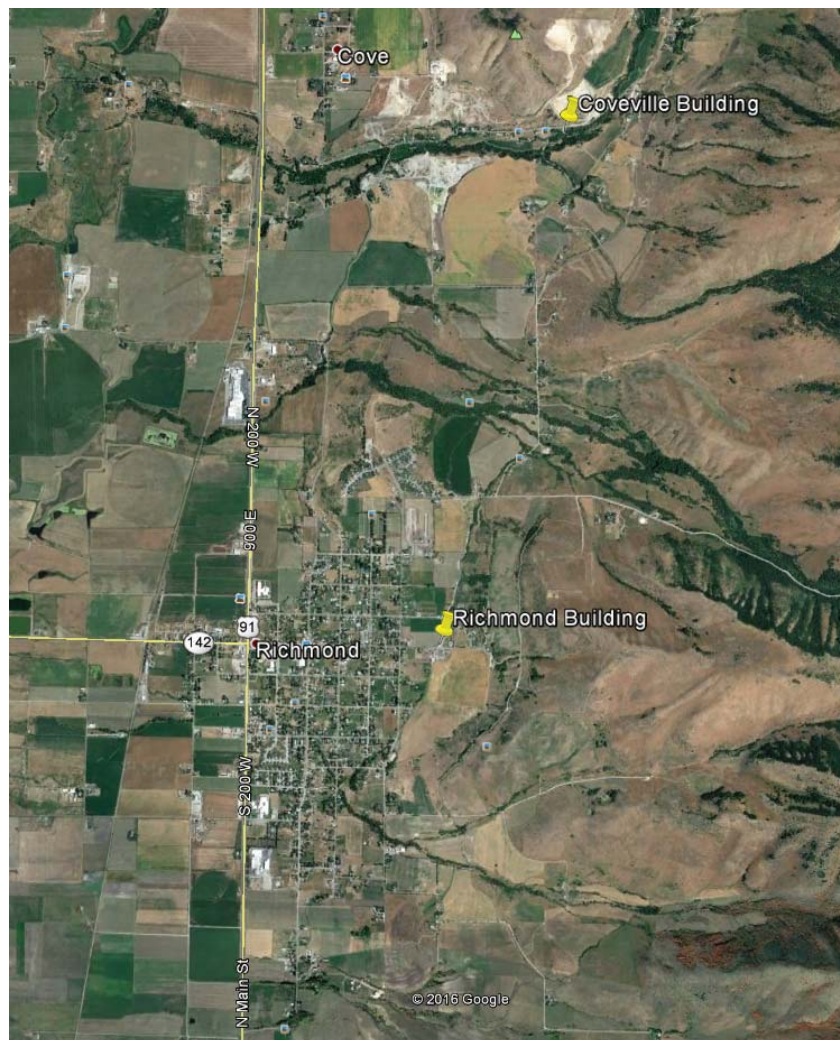


Figure 1. Overall site location map.

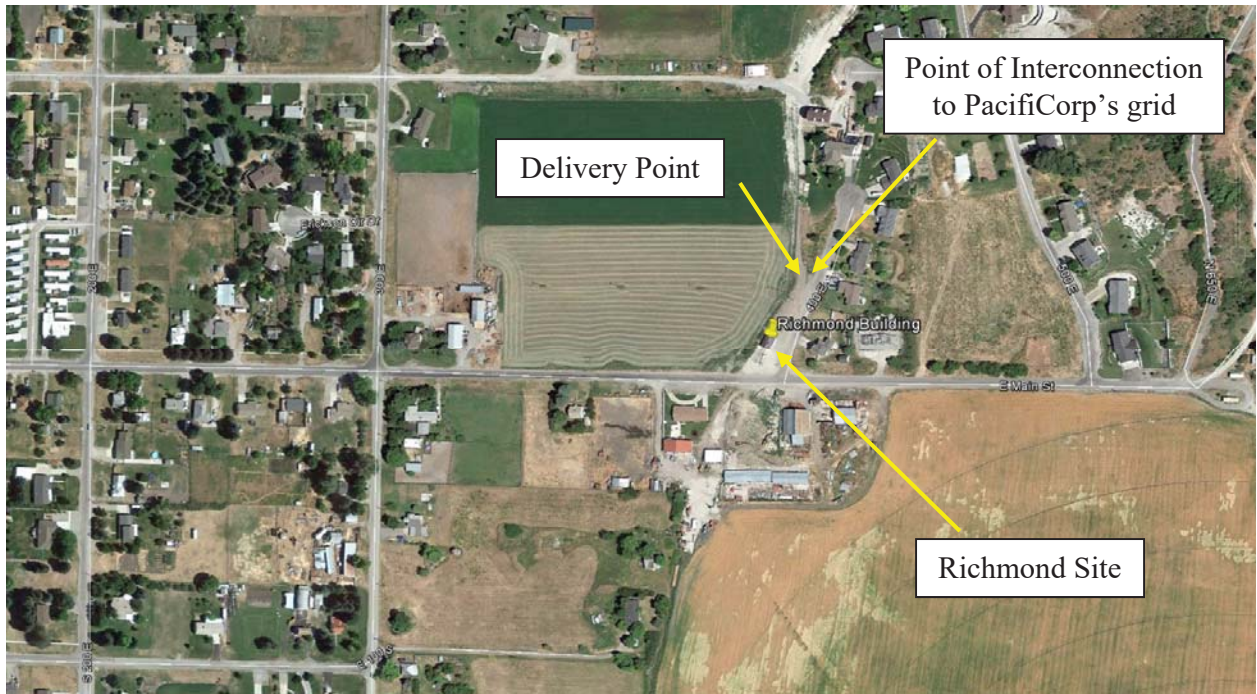


Figure 2. Richmond Site location in Richmond, Utah. This is also the Delivery Point.



Figure 3. Coveville Site location in Cove, Utah.

Final record drawings of the interconnection design and construction will be provided upon completion, but no later than September 30, 2017.

EXHIBIT B**DESCRIPTION OF SYSTEM; SPECIFICATION; MAINTENANCE**

Attached is the latest revision of the Pro Forma Proposal which contains facility details. Owner shall be responsible for the operation and maintenance of the System as described in the proposal. Nameplate data for the generators is also included.

PRO FORMA PROPOSAL
for the
UPPER HIGH CREEK HYDROPOWER PROJECT
Richmond, Utah

January 2017

Revised March 2017

Prepared by



PROJECT DESCRIPTION

Richmond Irrigation Company (RIC) is installing two hydropower facilities along their irrigation pipeline to generate power from the energy dissipated. The Coveville facility will have one turbine-generator unit that will run year-round. The Richmond facility will have two turbine-generator units that will operate during the irrigation season, April through September.

SITE LOCATION

Power generated at the Coveville site will be transmitted to the Richmond site via a three-phase underground electrical line where the system will be connected with Rocky Mountain Power's (RMP) grid. The Richmond site is located on the northwest corner of 400 East and Main Street in Richmond, Utah.

GENERATION TECHNOLOGY

The generation technology shall be a hydro-turbine in a waterline. The Coveville unit shall be a Cornell Pump Company turbine model 6 TR3 close coupled to a Marathon Electric three-phase, 480 VAC, 60 Hz, 1800 RPM, Frame 405 induction generator rated 120 kW full load. The Richmond units shall be Cornell Pump Company turbines model 6 TR2 close coupled to Marathon Electric three-phase, 480 VAC, 60 Hz, 1800 RPM, Frame 405 induction generators rated 120 kW full load.

DESIGN CAPACITY

The design capacity of the Coveville unit is 120 kW. Under hydraulic conditions, the net amount of power delivered is estimated to be approximately 120 kW. The total design capacity of the Richmond units is 240 kW. Under hydraulic conditions, the total net amount of power delivered is estimated to be approximately 190 kW.

SCHEDULE OF MONTHLY DELIVERIES

Refer to attachment. Flow data was obtained from a USGS gage for the past 20 years. The 2016 irrigation season was intended to collect flow data using the newly installed pressurized pipeline, but the data was not able to be recorded consistently and accurately. As such, with the available experience from the 2016 season, it is anticipated that the predicted flows from the USGS gage are accurate.

MINIMUM AND MAXIMUM ANNUAL DELIVERIES

Refer to attachment. See flow data explanation in Schedule of Monthly Deliveries.

INITIAL OPERATION DATE

The proposed on-line date is May 1, 2017. In order to meet this operation date, the following milestone dates have been set:

Receive backfeed power from PacifiCorp	April 5, 2017
Installation of hydropower equipment	April 21, 2017
Synchronization and generation testing	April 28, 2017
Full commercial operation	May 1, 2017

The buildings, pipeline, and valves were installed prior to the 2016 irrigation season.

PROPOSED CONTRACT TERM AND PRICING PROVISIONS

RIC proposes a contract with Hyrum City for 20 years at \$0.055/kWh. Pricing will not be based on time of day or year. Wheeling charges will be covered by Hyrum City. Interconnection costs will be covered by RIC.

STATUS OF INTERCONNECTION AGREEMENT

RIC has signed an interconnection agreement with PacifiCorp and is now in the process of construction and installation of the hydropower elements of the system. PacifiCorp is in the process of their related engineering work. The system will receive backfeed power in April, at which time the interconnection is operational from the utility's side.

PRODUCTION WATER RIGHTS

RIC will use three water rights to produce power through their system. Water Right 25-11254 allows 6 cfs to be used to generate hydropower at the Coveville facility year-round. Water Right 25-11262 allows 25 cfs to be used to generate hydropower at the Richmond facility. The full water right will not be available at the hydropower site due to shareholder turnouts upstream of the facility. Water Right 25-4933 is used to serve the irrigation company's shareholders.

ATTACHMENTS

FERC Determination Letter
Power Generation Schedule
Monthly Power Generation Summary
Coveville Water Rights Approval
Richmond Water Rights Approval

FEDERAL ENERGY REGULATORY COMMISSION
Washington, D.C. 20426

OFFICE OF ENERGY PROJECTS

Docket No. CD15-24-000 – Utah
Richmond Hydroelectric Project
Richmond Irrigation Company

Mr. Terry Spackman
President, Richmond Irrigation Company
P.O. Box 156
Richmond, UT 84333

July 08, 2015

Subject: Determination that the Richmond Hydroelectric Project Meets Qualifying
Conduit Hydropower Facility Criteria

Dear Mr. Spackman:

On May 6, 2015, you filed a notice of intent, pursuant to section 30(a) of the Federal Power Act (FPA), 16 U.S.C. § 823a (2012), as amended by Section 4 of the Hydropower Regulatory Efficiency Act of 2013, Pub. L. 113-23, § 4a, 127 Stat. 493 (2013), to construct a qualifying conduit hydropower facility, the Richmond Hydroelectric Project, to be located near Richmond City in Cache County, Utah.

On May 20, 2015, Commission staff issued a public notice that preliminarily determined that the project met the statutory criteria for a qualifying conduit hydropower facility, and thus was not required to be licensed under Part I of the FPA. The notice established a 45-day period for entities to contest whether the project met the criteria. No comments or interventions were filed in response to the notice. Accordingly, this letter constitutes a written determination that the Richmond Hydroelectric Project meets the qualifying criteria under FPA section 30(a), and is not required to be licensed under Part I of the FPA. Qualifying conduit hydropower facilities remain subject to other applicable federal, state, and local laws and regulations.

If you have any questions, please contact Christopher Chaney at (202) 502-6778 or christopher.chaney@ferc.gov.

Sincerely,

Kelly Houff
Chief, Engineering Resources Branch
Division of Hydropower Administration
and Compliance

Assumptions:

1. Pipeline Design Flow = Flows in High Creek minus 2 cfs (required to stay in creek); maximum flow of 30 cfs
2. Flows for Hydropower in Coveville are based on pipeline design flow times 15.6%; with a maximum of 6 cfs and minimum of 4 cfs
3. Flows for Hydropower in Richmond are based on pipeline design flow times 84.4%; times an additional 70% for upstream usage; with a maximum of 14 cfs and minimum of 5 cfs
4. Power Generation for both sites are based on 80% efficiency and 24 hours of operation per day

Total Hrs = 8760

Date	Month	Flow Data in High Creek			PIPELINE DESIGN FLOW ¹			ESTIMATED FLOWS FOR HYDROPOWER			Coveville Site			Richmond Site		
		Mean	Max	Min	Mean	Max	Min	Max Flow = 6 cfs	Max Flow = 14 cfs	Max	Mean	Min	Max	Mean	Min	Max
1-Jan	1	9.0	16.0	5.0	7.0	14.0	3.0	6	0.0	2478	0	2478	2478	0	2478	175
2-Jan	1	8.8	16.0	5.2	6.8	14.0	3.2	6	0.0	2478	0	2478	2478	0	2478	0
3-Jan	1	8.7	16.0	5.2	6.7	14.0	3.2	6	0.0	2478	0	2478	2478	0	2478	0
4-Jan	1	8.7	16.0	5.2	6.7	14.0	3.2	6	0.0	2478	0	2478	2478	0	2478	0
5-Jan	1	8.8	15.0	5.2	6.8	13.0	3.2	6	0.0	2478	0	2478	2478	0	2478	0
6-Jan	1	8.8	15.0	4.9	6.8	13.0	2.9	6	0.0	2478	0	2478	2478	0	2478	0
7-Jan	1	8.4	15.0	5.0	6.4	13.0	3.0	6	0.0	2478	0	2478	2478	0	2478	0
8-Jan	1	8.6	14.0	5.0	6.6	12.0	3.0	6	0.0	2478	0	2478	2478	0	2478	0
9-Jan	1	8.7	14.0	5.2	6.7	12.0	3.2	6	0.0	2478	0	2478	2478	0	2478	0
10-Jan	1	8.9	14.0	6.0	6.9	12.0	4.0	6	0.0	2478	0	2478	2478	0	2478	0
11-Jan	1	9.0	14.0	5.6	7.0	12.0	3.6	6	0.0	2478	0	2478	2478	0	2478	0
12-Jan	1	8.9	14.0	5.1	6.9	12.0	3.1	6	0.0	2478	0	2478	2478	0	2478	0
13-Jan	1	9.7	26.0	4.8	7.7	24.0	2.8	6	0.0	2478	0	2478	2478	0	2478	0
14-Jan	1	9.4	21.0	4.8	7.4	19.0	2.8	6	0.0	2478	0	2478	2478	0	2478	0
15-Jan	1	9.1	15.0	4.8	7.1	13.0	2.8	6	0.0	2478	0	2478	2478	0	2478	0
16-Jan	1	8.9	14.0	4.2	6.9	12.0	2.2	6	0.0	2478	0	2478	2478	0	2478	0
17-Jan	1	8.8	12.0	4.7	6.8	10.0	2.7	6	0.0	2478	0	2478	2478	0	2478	0
18-Jan	1	9.0	15.0	4.2	7.0	13.0	2.2	6	0.0	2478	0	2478	2478	0	2478	0
19-Jan	1	9.0	16.0	4.6	7.0	14.0	2.6	6	0.0	2478	0	2478	2478	0	2478	0
20-Jan	1	9.2	18.0	4.5	7.2	16.0	2.5	6	0.0	2478	0	2478	2478	0	2478	0
21-Jan	1	9.8	30.0	4.6	7.8	28.0	2.6	6	0.0	2478	0	2478	2478	0	2478	0
22-Jan	1	9.8	28.0	4.7	7.8	26.0	2.7	6	0.0	2478	0	2478	2478	0	2478	0
23-Jan	1	9.5	24.0	4.5	7.5	22.0	2.5	6	0.0	2478	0	2478	2478	0	2478	0
24-Jan	1	9.2	19.0	4.3	7.2	17.0	2.3	6	0.0	2478	0	2478	2478	0	2478	0
25-Jan	1	9.1	17.0	4.3	7.1	15.0	2.3	6	0.0	2478	0	2478	2478	0	2478	0
26-Jan	1	9.0	15.0	4.1	7.0	13.0	2.1	6	0.0	2478	0	2478	2478	0	2478	0
27-Jan	1	9.0	14.0	4.4	7.0	12.0	2.4	6	0.0	2478	0	2478	2478	0	2478	0
28-Jan	1	8.8	14.0	4.1	6.8	12.0	2.1	6	0.0	2478	0	2478	2478	0	2478	0
29-Jan	1	8.7	13.0	4.5	6.7	11.0	2.5	6	0.0	2478	0	2478	2478	0	2478	0
30-Jan	1	8.5	14.0	4.5	6.5	12.0	2.5	6	0.0	2478	0	2478	2478	0	2478	0
31-Jan	1	8.9	17.0	4.3	6.9	15.0	2.3	6	0.0	2478	0	2478	2478	0	2478	0
1-Feb	2	8.9	17.0	4.1	6.9	17.0	2.1	6	0.0	2478	0	2478	2478	0	2478	0
2-Feb	2	8.7	19.0	4.1	6.7	17.0	2.1	6	0.0	2478	0	2478	2478	0	2478	0
3-Feb	2	8.6	18.0	4.0	6.6	16.0	2.0	6	0.0	2478	0	2478	2478	0	2478	0
4-Feb	2	8.5	17.0	3.8	6.5	15.0	1.8	6	0.0	2478	0	2478	2478	0	2478	0
5-Feb	2	8.4	16.0	3.8	6.4	14.0	1.8	6	0.0	2478	0	2478	2478	0	2478	0
6-Feb	2	8.6	15.0	3.9	6.6	13.0	1.9	6	0.0	2478	0	2478	2478	0	2478	0
7-Feb	2	8.7	14.0	4.2	6.7	12.0	2.2	6	0.0	2478	0	2478	2478	0	2478	0
8-Feb	2	9.0	14.0	4.3	7.0	12.0	2.3	6	0.0	2478	0	2478	2478	0	2478	0
9-Feb	2	9.0	15.0	4.2	7.0	13.0	2.2	6	0.0	2478	0	2478	2478	0	2478	0
10-Feb	2	9.2	21.0	4.2	7.2	19.0	2.2	6	0.0	2478	0	2478	2478	0	2478	0
11-Feb	2	9.4	24.0	4.4	7.4	22.0	2.4	6	0.0	2478	0	2478	2478	0	2478	0
12-Feb	2	9.4	24.0	4.4	7.4	22.0	2.4	6	0.0	2478	0	2478	2478	0	2478	0

Assumptions:

1. Pipeline Design Flow = Flows in High Creek minus 2 cfs (required to stay in creek); maximum flow of 30 cfs
2. Flows for Hydropower in Coveville are based on pipeline design flow times 15.6%; with a maximum of 6 cfs and minimum of 4 cfs
3. Flows for Hydropower in Richmond are based on pipeline design flow times 84.4%; times an additional 70% for upstream usage; with a maximum of 14 cfs and minimum of 5 cfs
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Total Hrs = 8760

Date	Month	Flow Data in High Creek				PIPELINE DESIGN FLOW ¹				ESTIMATED FLOWS FOR HYDROPOWER				Power Generation (kWh) ⁴										
		Mean	Max	Min	Max	Mean	Max	Min	Max	Mean	Max	Min	Max	Mean	Max	Min	Max							
28-Mar	3	19.0	48.0	8.8	30.0	17.0	30.0	6.8	6	6	6.0	14.0	11.8	14.0	0.0	2478	2478	0	3362	3983	0	3362	3983	0
29-Mar	3	20.0	57.0	8.1	30.0	18.0	30.0	6.1	6	6	6.0	14.0	11.8	14.0	0.0	2478	2478	0	3530	3983	0	3530	3983	0
30-Mar	3	21.0	70.0	7.5	30.0	19.0	30.0	5.5	6	6	5.5	14.0	13.0	14.0	0.0	2478	2478	0	3698	3983	0	3698	3983	0
31-Mar	3	23.0	107.0	7.2	30.0	21.0	30.0	5.2	6	6	5.2	14.0	13.6	14.0	0.0	2478	2478	0	3866	3983	0	3866	3983	0
1-Apr	4	22.0	98.0	7.1	30.0	20.0	30.0	5.1	0	6	6	14.0	14.0	14.0	5.9	2478	2478	0	3983	3983	0	3983	3983	1681
2-Apr	4	22.0	82.0	7.7	30.0	20.0	30.0	5.7	0	6	6	14.0	14.0	14.0	6.5	2478	2478	0	3983	3983	0	3983	3983	1849
3-Apr	4	23.0	72.0	9.9	30.0	21.0	30.0	7.9	0	6	6	14.0	14.0	14.0	5.9	2478	2478	0	3983	3983	0	3983	3983	1849
4-Apr	4	24.0	68.0	10.0	30.0	22.0	30.0	8.0	0	6	6	14.0	14.0	14.0	6.5	2478	2478	0	3983	3983	0	3983	3983	1681
5-Apr	4	25.0	68.0	10.0	30.0	23.0	30.0	8.0	0	6	6	14.0	14.0	14.0	5.9	2478	2478	0	3983	3983	0	3983	3983	1681
6-Apr	4	28.0	72.0	12.0	30.0	26.0	30.0	10.0	4.1	6	6	14.0	14.0	14.0	5.9	2478	2478	0	3983	3983	0	3983	3983	1681
7-Apr	4	31.0	72.0	13.0	30.0	30.0	30.0	11.0	6	6	6	14.0	14.0	14.0	5.9	2478	2478	0	3983	3983	0	3983	3983	1681
8-Apr	4	34.0	66.0	13.0	30.0	34.0	30.0	11.0	6	6	6	14.0	14.0	14.0	5.9	2478	2478	0	3983	3983	0	3983	3983	1681
9-Apr	4	33.0	63.0	12.0	30.0	30.0	30.0	10.0	6	6	6	14.0	14.0	14.0	5.9	2478	2478	0	3983	3983	0	3983	3983	1681
10-Apr	4	33.0	80.0	12.0	30.0	30.0	30.0	10.0	6	6	6	14.0	14.0	14.0	5.9	2478	2478	0	3983	3983	0	3983	3983	1681
11-Apr	4	34.0	80.0	12.0	30.0	30.0	30.0	10.0	6	6	6	14.0	14.0	14.0	5.9	2478	2478	0	3983	3983	0	3983	3983	1681
12-Apr	4	38.0	99.0	12.0	30.0	30.0	30.0	10.0	6	6	6	14.0	14.0	14.0	5.9	2478	2478	0	3983	3983	0	3983	3983	1681
13-Apr	4	39.0	76.0	12.0	30.0	30.0	30.0	10.0	6	6	6	14.0	14.0	14.0	5.9	2478	2478	0	3983	3983	0	3983	3983	1681
14-Apr	4	41.0	81.0	11.0	30.0	30.0	30.0	9.0	6	6	6	14.0	14.0	14.0	5.3	2478	2478	0	3983	3983	0	3983	3983	1513
15-Apr	4	45.0	100.0	11.0	30.0	30.0	30.0	9.0	6	6	6	14.0	14.0	14.0	5.3	2478	2478	0	3983	3983	0	3983	3983	1513
16-Apr	4	49.0	110.0	11.0	30.0	30.0	30.0	9.0	6	6	6	14.0	14.0	14.0	5.3	2478	2478	0	3983	3983	0	3983	3983	1513
17-Apr	4	56.0	125.0	11.0	30.0	30.0	30.0	9.0	6	6	6	14.0	14.0	14.0	5.3	2478	2478	0	3983	3983	0	3983	3983	1513
18-Apr	4	60.0	139.0	12.0	30.0	30.0	30.0	10.0	6	6	6	14.0	14.0	14.0	5.9	2478	2478	0	3983	3983	0	3983	3983	1681
19-Apr	4	59.0	154.0	15.0	30.0	30.0	30.0	13.0	6	6	6	14.0	14.0	14.0	7.7	2478	2478	0	3983	3983	0	3983	3983	2485
20-Apr	4	59.0	154.0	22.0	30.0	30.0	30.0	20.0	6	6	6	14.0	14.0	14.0	11.8	2478	2478	0	3983	3983	0	3983	3983	3362
21-Apr	4	59.0	143.0	21.0	30.0	30.0	30.0	19.0	6	6	6	14.0	14.0	14.0	11.2	2478	2478	0	3983	3983	0	3983	3983	3194
22-Apr	4	61.0	128.0	20.0	30.0	30.0	30.0	18.0	6	6	6	14.0	14.0	14.0	10.6	2478	2478	0	3983	3983	0	3983	3983	3026
23-Apr	4	64.0	123.0	29.0	30.0	30.0	30.0	27.0	6	6	4.2	14.0	14.0	14.0	10.6	2478	2478	0	3983	3983	1739	3983	3983	3983
24-Apr	4	65.0	127.0	34.0	30.0	30.0	30.0	30.0	6	6	6	14.0	14.0	14.0	14.0	2478	2478	2478	3983	3983	2478	3983	3983	3983
25-Apr	4	65.0	140.0	33.0	30.0	30.0	30.0	30.0	6	6	6	14.0	14.0	14.0	14.0	2478	2478	2478	3983	3983	2478	3983	3983	3983
26-Apr	4	64.0	155.0	29.0	30.0	30.0	30.0	27.0	6	6	4.2	14.0	14.0	14.0	14.0	2478	2478	2478	3983	3983	1739	3983	3983	3983
27-Apr	4	64.0	159.0	29.0	30.0	30.0	30.0	27.0	6	6	4.2	14.0	14.0	14.0	14.0	2478	2478	2478	3983	3983	1739	3983	3983	3983
28-Apr	4	66.0	152.0	29.0	30.0	30.0	30.0	27.0	6	6	4.2	14.0	14.0	14.0	14.0	2478	2478	2478	3983	3983	1739	3983	3983	3983
29-Apr	4	68.0	145.0	33.0	30.0	30.0	30.0	30.0	6	6	6	14.0	14.0	14.0	14.0	2478	2478	2478	3983	3983	2478	3983	3983	3983
30-Apr	4	69.0	145.0	34.0	30.0	30.0	30.0	30.0	6	6	6	14.0	14.0	14.0	14.0	2478	2478	2478	3983	3983	2478	3983	3983	3983
1-May	5	71.0	147.0	33.0	30.0	30.0	30.0	30.0	6	6	6	14.0	14.0	14.0	14.0	2478	2478	2478	3983	3983	2478	3983	3983	3983
2-May	5	76.0	140.0	33.0	30.0	30.0	30.0	30.0	6	6	6	14.0	14.0	14.0	14.0	2478	2478	2478	3983	3983	2478	3983	3983	3983
3-May	5	84.0	193.0	35.0	30.0	30.0	30.0	30.0	6	6	6	14.0	14.0	14.0	14.0	2478	2478	2478	3983	3983	2478	3983	3983	3983
4-May	5	92.0	257.0	35.0	30.0	30.0	30.0	30.0	6	6	6	14.0	14.0	14.0	14.0	2478	2478	2478	3983	3983	2478	3983	3983	3983
5-May	5	90.0	173.0	38.0	30.0	30.0	30.0	30.0	6	6	6	14.0	14.0	14.0	14.0	2478	2478	2478	3983	3983	2478	3983	3983	3983
6-May	5	92.0	182.0	36.0	30.0	30.0	30.0	30.0	6	6	6	14.0	14.0	14.0	14.0	2478	2478	2478	3983	3983	2478	3983	3983	3983
7-May	5	92.0	191.0	35.0	30.0	30.0	30.0	30.0	6	6	6	14.0	14.0	14.0	14.0	2478	2478	2478	3983	3983	2478	3983	3983	3983
8-May	5	90.0	174.0	34.0	30.0	30.0	30.0	30.0	6	6	6	14.0	14.0	14.0	14.0	2478	2478	2478	3983	3983	2478	3983	3983	3983
9-May	5	90.0	174.0	34.0	30.0	30.0	30.0	30.0	6	6	6	14.0	14.0	14.0	14.0	2478	2478	2478	3983	3983	2478	3983	3983	3983

Assumptions:

1. Pipeline Design Flow = Flows in High Creek minus 2 cfs (required to stay in creek); maximum flow of 30 cfs
2. Flows for Hydropower in Coveville are based on pipeline design flow times 15.6%; with a maximum of 6 cfs and minimum of 4 cfs
3. Flows for Hydropower in Richmond are based on pipeline design flow times 84.4%; times an additional 70% for upstream usage; with a maximum of 14 cfs and minimum of 5 cfs
4. Power Generation for both sites are based on 80% efficiency and 24 hours of operation per day

Total Hrs = 8760

Date	Month	Flow Data in High Creek			PIPELINE DESIGN FLOW ¹			ESTIMATED FLOWS FOR HYDROPOWER			Cove Efficiency = 0.8 Cove Max kW = 120			Power Generation (kWh) ⁴		
		Mean	Max	Min	Mean	Max	Min	Max Flow = 6 cfs	Max Flow = 14 cfs	Max Flow = 14 cfs	Mean	Max	Min	Mean	Max	Min
10-May	5	90.0	165.0	34.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
11-May	5	91.0	158.0	36.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
12-May	5	92.0	169.0	38.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
13-May	5	97.0	265.0	42.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
14-May	5	103.0	301.0	42.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
15-May	5	110.0	320.0	45.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
16-May	5	114.0	330.0	45.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
17-May	5	116.0	300.0	47.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
18-May	5	114.0	220.0	48.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
19-May	5	116.0	230.0	47.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
20-May	5	116.0	250.0	45.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
21-May	5	120.0	290.0	45.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
22-May	5	129.0	259.0	47.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
23-May	5	127.0	240.0	48.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
24-May	5	129.0	260.0	50.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
25-May	5	131.0	275.0	52.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
26-May	5	140.0	230.0	53.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
27-May	5	156.0	295.0	53.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
28-May	5	159.0	302.0	54.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
29-May	5	158.0	351.0	52.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
30-May	5	161.0	391.0	51.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
31-May	5	153.0	359.0	50.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
1-Jun	6	149.0	377.0	48.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
2-Jun	6	146.0	474.0	44.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
3-Jun	6	140.0	357.0	42.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
4-Jun	6	142.0	386.0	44.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
5-Jun	6	142.0	359.0	45.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
6-Jun	6	140.0	311.0	43.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
7-Jun	6	137.0	248.0	41.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
8-Jun	6	128.0	263.0	40.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
9-Jun	6	128.0	261.0	38.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
10-Jun	6	121.0	256.0	36.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
11-Jun	6	121.0	263.0	35.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
12-Jun	6	115.0	225.0	35.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
13-Jun	6	111.0	173.0	34.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
14-Jun	6	110.0	206.0	32.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
15-Jun	6	109.0	198.0	31.0	30.0	30.0	30.0	6	6	14.0	14.0	14.0	2478	2478	2478	3983
16-Jun	6	108.0	206.0	30.0	30.0	30.0	28.0	6	6	14.0	14.0	14.0	2478	2478	1804	3983
17-Jun	6	109.0	220.0	30.0	30.0	30.0	28.0	6	6	14.0	14.0	14.0	2478	2478	1804	3983
18-Jun	6	108.0	223.0	29.0	30.0	30.0	27.0	6	6	14.0	14.0	14.0	2478	2478	1739	3983
19-Jun	6	104.0	225.0	27.0	30.0	30.0	25.0	6	6	14.0	14.0	14.0	2478	2478	0	3983
20-Jun	6	100.0	201.0	25.0	30.0	30.0	23.0	6	6	14.0	14.0	13.6	2478	2478	0	3983
21-Jun	6	97.0	196.0	24.0	30.0	30.0	22.0	6	6	14.0	14.0	13.0	2478	2478	0	3983

Assumptions:

1. Pipeline Design Flow = Flows in High Creek minus 2 cfs (required to stay in creek); maximum flow of 30 cfs
2. Flows for Hydropower in Coveville are based on pipeline design flow times 15.6%, with a maximum of 6 cfs and minimum of 4 cfs
3. Flows for Hydropower in Richmond are based on pipeline design flow times 84.4%; times an additional 70% for upstream usage; with a maximum of 14 cfs and minimum of 5 cfs
4. Power Generation for both sites are based on 80% efficiency and 24 hours of operation per day

Total Hrs = 8760

Date	Month	Flow Data in High Creek			PIPELINE DESIGN FLOW ¹			ESTIMATED FLOWS FOR HYDROPOWER			Cove Efficiency = 0.8 Cove Max kW = 120			Power Generation (kWh) ⁴					
		Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min			
		Flows (cfs)			Flows (cfs)			Flows (cfs)			Flows (cfs)			Flows (cfs)					
22-Jun	6	96.0	195.0	22.0	30.0	30.0	20.0	6	6	0	14.0	14.0	11.8	2478	2478	0	3983	3983	3362
23-Jun	6	94.0	190.0	22.0	30.0	30.0	20.0	6	6	0	14.0	14.0	11.8	2478	2478	0	3983	3983	3362
24-Jun	6	91.0	190.0	21.0	30.0	30.0	19.0	6	6	0	14.0	14.0	11.2	2478	2478	0	3983	3983	3194
25-Jun	6	87.0	185.0	20.0	30.0	30.0	18.0	6	6	0	14.0	14.0	10.6	2478	2478	0	3983	3983	3026
26-Jun	6	83.0	177.0	20.0	30.0	30.0	18.0	6	6	0	14.0	14.0	10.6	2478	2478	0	3983	3983	3026
27-Jun	6	80.0	167.0	20.0	30.0	30.0	18.0	6	6	0	14.0	14.0	10.6	2478	2478	0	3983	3983	3026
28-Jun	6	77.0	160.0	19.0	30.0	30.0	17.0	6	6	0	14.0	14.0	10.0	2478	2478	0	3983	3983	2857
29-Jun	6	73.0	152.0	18.0	30.0	30.0	16.0	6	6	0	14.0	14.0	9.5	2478	2478	0	3983	3983	2689
30-Jun	6	70.0	145.0	17.0	30.0	30.0	15.0	6	6	0	14.0	14.0	8.9	2478	2478	0	3983	3983	2521
1-Jul	7	68.0	140.0	17.0	30.0	30.0	15.0	6	6	0	14.0	14.0	8.9	2478	2478	0	3983	3983	2521
2-Jul	7	66.0	135.0	17.0	30.0	30.0	15.0	6	6	0	14.0	14.0	8.9	2478	2478	0	3983	3983	2521
3-Jul	7	64.0	130.0	16.0	30.0	30.0	14.0	6	6	0	14.0	14.0	8.3	2478	2478	0	3983	3983	2353
4-Jul	7	61.0	125.0	16.0	30.0	30.0	14.0	6	6	0	14.0	14.0	8.3	2478	2478	0	3983	3983	2353
5-Jul	7	59.0	120.0	16.0	30.0	30.0	14.0	6	6	0	14.0	14.0	8.3	2478	2478	0	3983	3983	2353
6-Jul	7	56.0	115.0	16.0	30.0	30.0	14.0	6	6	0	14.0	14.0	8.3	2478	2478	0	3983	3983	2353
7-Jul	7	54.0	113.0	15.0	30.0	30.0	13.0	6	6	0	14.0	14.0	7.7	2478	2478	0	3983	3983	2185
8-Jul	7	52.0	117.0	15.0	30.0	30.0	13.0	6	6	0	14.0	14.0	7.7	2478	2478	0	3983	3983	2185
9-Jul	7	50.0	114.0	14.0	30.0	30.0	12.0	6	6	0	14.0	14.0	7.1	2478	2478	0	3983	3983	2017
10-Jul	7	49.0	108.0	15.0	30.0	30.0	13.0	6	6	0	14.0	14.0	7.1	2478	2478	0	3983	3983	2185
11-Jul	7	46.0	92.0	14.0	30.0	30.0	12.0	6	6	0	14.0	14.0	7.1	2478	2478	0	3983	3983	2017
12-Jul	7	44.0	87.0	14.0	30.0	30.0	12.0	6	6	0	14.0	14.0	7.1	2478	2478	0	3983	3983	2017
13-Jul	7	42.0	84.0	14.0	30.0	30.0	12.0	6	6	0	14.0	14.0	7.1	2478	2478	0	3983	3983	2017
14-Jul	7	41.0	80.0	13.0	30.0	30.0	11.0	6	6	0	14.0	14.0	6.5	2478	2478	0	3983	3983	1849
15-Jul	7	39.0	77.0	13.0	30.0	30.0	11.0	6	6	0	14.0	14.0	6.5	2478	2478	0	3983	3983	1849
16-Jul	7	38.0	74.0	13.0	30.0	30.0	11.0	6	6	0	14.0	14.0	6.5	2478	2478	0	3983	3983	1849
17-Jul	7	37.0	70.0	13.0	30.0	30.0	11.0	6	6	0	14.0	14.0	6.5	2478	2478	0	3983	3983	1849
18-Jul	7	35.0	60.0	13.0	30.0	30.0	11.0	6	6	0	14.0	14.0	6.5	2478	2478	0	3983	3983	1849
19-Jul	7	34.0	59.0	13.0	30.0	30.0	11.0	6	6	0	14.0	14.0	6.5	2478	2478	0	3983	3983	1849
20-Jul	7	33.0	58.0	12.0	30.0	30.0	10.0	6	6	0	14.0	14.0	5.9	2478	2478	0	3983	3983	1681
21-Jul	7	32.0	58.0	12.0	30.0	30.0	10.0	6	6	0	14.0	14.0	5.9	2478	2478	0	3983	3983	1681
22-Jul	7	31.0	57.0	12.0	30.0	30.0	10.0	6	6	0	14.0	14.0	5.9	2478	2478	0	3983	3983	1681
23-Jul	7	30.0	53.0	12.0	28.0	30.0	10.0	4.4	6	0	14.0	14.0	5.9	1804	2478	0	3983	3983	1681
24-Jul	7	29.0	50.0	12.0	27.0	30.0	10.0	4.2	6	0	14.0	14.0	5.9	1739	2478	0	3983	3983	1681
25-Jul	7	28.0	51.0	11.0	26.0	30.0	9.0	4.1	6	0	14.0	14.0	5.3	1675	2478	0	3983	3983	1513
26-Jul	7	27.0	48.0	11.0	25.0	30.0	9.0	0	6	0	14.0	14.0	5.3	0	2478	0	3983	3983	1513
27-Jul	7	27.0	48.0	11.0	25.0	30.0	9.0	0	6	0	14.0	14.0	5.3	0	2478	0	3983	3983	1513
28-Jul	7	26.0	46.0	11.0	24.0	30.0	9.0	0	6	0	14.0	14.0	5.3	0	2478	0	3983	3983	1513
29-Jul	7	26.0	46.0	11.0	24.0	30.0	9.0	0	6	0	14.0	14.0	5.3	0	2478	0	3983	3983	1513
30-Jul	7	25.0	44.0	10.0	23.0	30.0	8.0	0	6	0	13.6	14.0	0.0	0	2478	0	3866	3983	0
31-Jul	7	24.0	44.0	10.0	22.0	30.0	8.0	0	6	0	13.0	14.0	0.0	0	2478	0	3698	3983	0
1-Aug	8	23.0	42.0	9.9	21.0	30.0	7.9	0	6	0	12.4	14.0	0.0	0	2478	0	3530	3983	0
2-Aug	8	23.0	40.0	9.5	21.0	30.0	7.5	0	6	0	12.4	14.0	0.0	0	2478	0	3530	3983	0
3-Aug	8	22.0	39.0	9.7	20.0	30.0	7.7	0	6	0	11.8	14.0	0.0	0	2478	0	3362	3983	0

Assumptions:

1. Pipeline Design Flow = Flows in High Creek minus 2 cfs (required to stay in creek); maximum flow of 30 cfs
2. Flows for Hydropower in Coveville are based on pipeline design flow times 15.6%; with a maximum of 6 cfs and minimum of 4 cfs
3. Flows for Hydropower in Richmond are based on pipeline design flow times 84.4%; times an additional 70% for upstream usage; with a maximum of 14 cfs and minimum of 5 cfs
4. Power Generation for both sites are based on 80% efficiency and 24 hours of operation per day

Total Hrs = 8760

Date	Month	Flow Data in High Creek				PIPELINE DESIGN FLOW ¹				ESTIMATED FLOWS FOR HYDROPOWER				Power Generation (kWh) ⁴							
		Mean	Max	Min	Flow Capacity = 30	Mean	Max	Min	Pipe Capacity = 30	Mean	Max	Min	Richmond Site (FLOWS) ³	Mean	Max	Min	Coveville Site	Mean	Max	Min	Richmond Site
4-Aug	8	22.0	38.0	9.6	20.0	30.0	7.6	30	0	6	0	11.8	14.0	0.0	0	2478	0	3362	3983	0	175
5-Aug	8	21.0	38.0	9.4	19.0	30.0	7.4	30	0	6	0	11.2	14.0	0.0	0	2478	0	3194	3983	0	175
6-Aug	8	21.0	36.0	9.4	19.0	30.0	7.4	30	0	6	0	11.2	14.0	0.0	0	2478	0	3194	3983	0	175
7-Aug	8	20.0	35.0	10.0	18.0	30.0	8.0	30	0	6	0	10.6	14.0	0.0	0	2478	0	3026	3983	0	175
8-Aug	8	20.0	34.0	9.3	18.0	30.0	7.3	30	0	6	0	10.6	14.0	0.0	0	2478	0	3026	3983	0	175
9-Aug	8	20.0	33.0	8.2	18.0	30.0	6.2	30	0	6	0	10.6	14.0	0.0	0	2478	0	3026	3983	0	175
10-Aug	8	19.0	33.0	8.1	17.0	30.0	6.1	30	0	6	0	10.0	14.0	0.0	0	2478	0	2857	3983	0	175
11-Aug	8	19.0	32.0	7.7	17.0	30.0	5.7	30	0	6	0	10.0	14.0	0.0	0	2478	0	2857	3983	0	175
12-Aug	8	18.0	32.0	7.7	16.0	30.0	5.7	30	0	6	0	9.5	14.0	0.0	0	2478	0	2689	3983	0	175
13-Aug	8	18.0	32.0	8.3	16.0	30.0	6.3	30	0	6	0	9.5	14.0	0.0	0	2478	0	2689	3983	0	175
14-Aug	8	18.0	31.0	8.5	16.0	30.0	6.5	30	0	6	0	9.5	14.0	0.0	0	2478	0	2689	3983	0	175
15-Aug	8	18.0	30.0	8.5	16.0	28.0	6.5	28	0	4.4	0	8.9	14.0	0.0	0	1804	0	2689	3983	0	175
16-Aug	8	17.0	30.0	8.4	15.0	28.0	6.4	28	0	4.4	0	8.9	14.0	0.0	0	1804	0	2521	3983	0	175
17-Aug	8	17.0	30.0	8.5	15.0	28.0	6.5	28	0	4.4	0	8.9	14.0	0.0	0	1804	0	2521	3983	0	175
18-Aug	8	17.0	28.0	8.2	15.0	26.0	6.2	26	0	4.1	0	8.9	14.0	0.0	0	1675	0	2521	3983	0	175
19-Aug	8	17.0	31.0	8.3	15.0	30.0	6.3	30	0	6.0	0	8.9	14.0	0.0	0	1804	0	2521	3983	0	175
20-Aug	8	16.0	30.0	8.0	14.0	28.0	6.0	28	0	4.4	0	8.3	14.0	0.0	0	1804	0	2353	3983	0	175
21-Aug	8	16.0	29.0	8.0	14.0	27.0	6.0	27	0	4.2	0	8.3	14.0	0.0	0	1739	0	2353	3983	0	175
22-Aug	8	16.0	29.0	8.0	14.0	27.0	6.0	27	0	4.2	0	8.3	14.0	0.0	0	1739	0	2353	3983	0	175
23-Aug	8	16.0	29.0	7.8	14.0	27.0	5.8	27	0	4.2	0	8.3	14.0	0.0	0	1739	0	2353	3983	0	175
24-Aug	8	15.0	26.0	7.6	13.0	24.0	5.6	24	0	0	0	7.7	14.0	0.0	0	0	2185	3983	0	175	
25-Aug	8	15.0	26.0	7.4	13.0	24.0	5.4	24	0	0	0	7.7	14.0	0.0	0	0	2185	3983	0	175	
26-Aug	8	15.0	26.0	7.4	13.0	24.0	5.4	24	0	0	0	7.7	14.0	0.0	0	0	2185	3983	0	175	
27-Aug	8	14.0	24.0	7.4	12.0	22.0	5.4	22	0	0	0	7.1	13.0	0.0	0	0	2017	3698	0	175	
28-Aug	8	14.0	23.0	7.4	12.0	21.0	5.4	21	0	0	0	7.1	12.4	0.0	0	0	2017	3530	0	175	
29-Aug	8	14.0	23.0	7.2	12.0	21.0	5.2	21	0	0	0	7.1	12.4	0.0	0	0	2017	3530	0	175	
30-Aug	8	14.0	23.0	7.2	12.0	21.0	5.2	21	0	0	0	7.1	12.4	0.0	0	0	2017	3530	0	175	
31-Aug	8	14.0	23.0	7.4	12.0	21.0	5.4	21	0	0	0	7.1	12.4	0.0	0	0	2017	3530	0	175	
1-Sep	9	13.0	22.0	7.2	11.0	20.0	5.2	20	0	0	0	6.5	11.8	0.0	0	0	1849	3362	0	175	
2-Sep	9	13.0	21.0	7.1	11.0	19.0	5.1	19	0	0	0	6.5	11.2	0.0	0	0	1849	3194	0	175	
3-Sep	9	13.0	21.0	7.0	11.0	19.0	5.0	19	0	0	0	6.5	11.2	0.0	0	0	1849	3194	0	175	
4-Sep	9	13.0	20.0	7.1	11.0	18.0	5.1	18	0	0	0	6.5	10.6	0.0	0	0	1849	3026	0	175	
5-Sep	9	13.0	21.0	7.1	11.0	19.0	5.1	19	0	0	0	6.5	11.2	0.0	0	0	1849	3194	0	175	
6-Sep	9	13.0	20.0	7.1	11.0	18.0	5.1	18	0	0	0	6.5	10.6	0.0	0	0	1849	3026	0	175	
7-Sep	9	13.0	20.0	7.0	11.0	18.0	5.0	18	0	0	0	6.5	10.6	0.0	0	0	1849	3026	0	175	
8-Sep	9	13.0	20.0	7.2	11.0	18.0	5.2	18	0	0	0	6.5	10.6	0.0	0	0	1849	3026	0	175	
9-Sep	9	12.0	18.0	7.2	10.0	16.0	5.2	16	0	0	0	5.9	9.5	0.0	0	0	1681	2689	0	175	
10-Sep	9	12.0	18.0	7.2	10.0	16.0	5.2	16	0	0	0	5.9	9.5	0.0	0	0	1681	2689	0	175	
11-Sep	9	12.0	18.0	7.2	10.0	16.0	5.2	16	0	0	0	5.9	9.5	0.0	0	0	1681	2689	0	175	
12-Sep	9	12.0	18.0	7.2	10.0	16.0	5.2	16	0	0	0	5.9	9.5	0.0	0	0	1681	2689	0	175	
13-Sep	9	12.0	18.0	7.3	10.0	16.0	5.3	16	0	0	0	5.9	9.5	0.0	0	0	1681	2689	0	175	
14-Sep	9	12.0	18.0	7.7	10.0	16.0	5.7	16	0	0	0	5.9	9.5	0.0	0	0	1681	2689	0	175	
15-Sep	9	12.0	17.0	7.4	10.0	15.0	5.4	15	0	0	0	5.9	8.9	0.0	0	0	1681	2521	0	175	

Assumptions:

1. Pipeline Design Flow = Flows in High Creek minus 2 cfs (required to stay in creek); maximum flow of 30 cfs
2. Flows for Hydropower in Coveville are based on pipeline design flow times 15.6%; with a maximum of 6 cfs and minimum of 4 cfs
3. Flows for Hydropower in Richmond are based on pipeline design flow times 84.4%; times an additional 70% for upstream usage; with a maximum of 14 cfs and minimum of 5 cfs
4. Power Generation for both sites are based on 80% efficiency and 24 hours of operation per day

Total Hrs = 8760

Date	Month	Flow Data in High Creek			PIPELINE DESIGN FLOW ¹			ESTIMATED FLOWS FOR HYDROPOWER			Coveville Site			Richmond Site			
		Mean	Max	Min	Mean	Max	Min	Max Flow = 6 cfs	Max Flow = 14 cfs	Max Flow = 6 cfs	Max Flow = 14 cfs	Mean	Max	Min	Mean	Max	Min
16-Sep	9	11.0	16.0	6.9	9.0	14.0	4.9	0	5.3	8.3	0.0	0	0	0	1513	2353	0
17-Sep	9	11.0	16.0	6.7	9.0	14.0	4.7	0	5.3	8.3	0.0	0	0	1513	2353	0	
18-Sep	9	12.0	16.0	6.6	10.0	14.0	4.6	0	5.9	8.3	0.0	0	0	1681	2353	0	
19-Sep	9	11.0	16.0	6.4	9.0	14.0	4.4	0	5.3	8.3	0.0	0	0	1513	2353	0	
20-Sep	9	11.0	15.0	7.0	9.0	13.0	5.0	0	5.3	7.7	0.0	0	0	1513	2185	0	
21-Sep	9	11.0	17.0	6.9	9.0	15.0	4.9	0	5.3	8.9	0.0	0	0	1513	2521	0	
22-Sep	9	11.0	16.0	6.6	9.0	14.0	4.6	0	5.3	8.3	0.0	0	0	1513	2353	0	
23-Sep	9	11.0	18.0	6.4	9.0	16.0	4.4	0	5.3	9.5	0.0	0	0	1513	2689	0	
24-Sep	9	11.0	20.0	6.1	9.0	18.0	4.1	0	5.3	10.6	0.0	0	0	1513	3026	0	
25-Sep	9	11.0	18.0	6.0	9.0	16.0	4.0	0	5.3	9.5	0.0	0	0	1513	2689	0	
26-Sep	9	11.0	23.0	5.9	9.0	21.0	3.9	0	5.3	12.4	0.0	0	0	1513	3530	0	
27-Sep	9	11.0	25.0	5.8	9.0	23.0	3.8	0	5.3	13.6	0.0	0	0	1513	3866	0	
28-Sep	9	11.0	27.0	6.2	9.0	25.0	4.2	0	5.3	14.0	0.0	0	0	1513	3983	0	
29-Sep	9	11.0	28.0	6.3	9.0	26.0	4.3	0	4.056	14.0	0.0	0	0	1675	3983	0	
30-Sep	9	11.0	28.0	6.2	9.0	26.0	4.2	0	4.056	14.0	0.0	0	0	1675	3983	0	
1-Oct	10	12.0	28.0	6.2	10.0	26.0	4.2	6	6	4.2	0.0	6	2478	2478	1734	2478	
2-Oct	10	12.0	28.0	6.0	10.0	26.0	4.0	6	6	4.0	0.0	6	2478	2478	1652	2478	
3-Oct	10	12.0	28.0	6.0	10.0	26.0	4.0	6	6	4.0	0.0	6	2478	2478	1652	2478	
4-Oct	10	12.0	27.0	6.0	10.0	25.0	4.0	6	6	4.0	0.0	6	2478	2478	1652	2478	
5-Oct	10	12.0	25.0	6.0	10.0	23.0	4.0	6	6	4.0	0.0	6	2478	2478	1817	2478	
6-Oct	10	12.0	23.0	6.4	10.0	21.0	4.4	6	6	4.4	0.0	6	2478	2478	1858	2478	
7-Oct	10	12.0	22.0	6.5	10.0	20.0	4.5	6	6	4.5	0.0	6	2478	2478	1858	2478	
8-Oct	10	11.0	21.0	6.4	9.0	19.0	4.4	6	6	4.4	0.0	6	2478	2478	1817	2478	
9-Oct	10	11.0	21.0	6.5	9.0	19.0	4.5	6	6	4.5	0.0	6	2478	2478	1858	2478	
10-Oct	10	11.0	20.0	6.7	9.0	18.0	4.7	6	6	4.7	0.0	6	2478	2478	1941	2478	
11-Oct	10	12.0	19.0	6.7	10.0	17.0	4.7	6	6	4.7	0.0	6	2478	2478	1941	2478	
12-Oct	10	12.0	19.0	6.7	10.0	17.0	4.7	6	6	4.7	0.0	6	2478	2478	1941	2478	
13-Oct	10	11.0	19.0	6.7	9.0	17.0	4.7	6	6	4.7	0.0	6	2478	2478	1941	2478	
14-Oct	10	11.0	19.0	6.7	9.0	17.0	4.7	6	6	4.7	0.0	6	2478	2478	1941	2478	
15-Oct	10	11.0	19.0	6.7	9.0	17.0	4.7	6	6	4.7	0.0	6	2478	2478	1941	2478	
16-Oct	10	11.0	20.0	6.7	9.0	18.0	4.7	6	6	4.7	0.0	6	2478	2478	1941	2478	
17-Oct	10	11.0	20.0	6.7	9.0	18.0	4.7	6	6	4.7	0.0	6	2478	2478	1941	2478	
18-Oct	10	12.0	19.0	6.5	10.0	17.0	4.5	6	6	4.5	0.0	6	2478	2478	1858	2478	
19-Oct	10	11.0	18.0	6.6	9.0	16.0	4.6	6	6	4.6	0.0	6	2478	2478	1900	2478	
20-Oct	10	11.0	18.0	6.6	9.0	16.0	4.6	6	6	4.6	0.0	6	2478	2478	1900	2478	
21-Oct	10	11.0	17.0	6.7	9.0	15.0	4.7	6	6	4.7	0.0	6	2478	2478	1941	2478	
22-Oct	10	11.0	17.0	6.5	9.0	15.0	4.5	6	6	4.5	0.0	6	2478	2478	1941	2478	
23-Oct	10	11.0	17.0	6.5	9.0	15.0	4.5	6	6	4.5	0.0	6	2478	2478	1858	2478	
24-Oct	10	11.0	17.0	6.3	9.0	15.0	4.3	6	6	4.3	0.0	6	2478	2478	1776	2478	
25-Oct	10	11.0	17.0	6.2	9.0	15.0	4.2	6	6	4.2	0.0	6	2478	2478	1734	2478	
26-Oct	10	11.0	18.0	6.2	9.0	16.0	4.2	6	6	4.2	0.0	6	2478	2478	1734	2478	
27-Oct	10	11.0	20.0	6.2	9.0	18.0	4.2	6	6	4.2	0.0	6	2478	2478	1734	2478	
28-Oct	10	11.0	20.0	6.2	9.0	18.0	4.2	6	6	4.2	0.0	6	2478	2478	1734	2478	

Cove Efficiency = 0.8
Cove Max kW = 120

Coveville Site
Head = 254

Richmond Site
Head = 175

Power Generation (kWh)⁴

Assumptions:

1. Pipeline Design Flow = Flows in High Creek minus 2 cfs (required to stay in creek); maximum flow of 30 cfs
2. Flows for Hydropower in Coveville are based on pipeline design flow times 15.6%; with a maximum of 6 cfs and minimum of 4 cfs
3. Flows for Hydropower in Richmond are based on pipeline design flow times 84.4%; times an additional 70% for upstream usage; with a maximum of 14 cfs and minimum of 5 cfs
4. Power Generation for both sites are based on 80% efficiency and 24 hours of operation per day

Total Hrs = 8760

Date	Month	Flow Data in High Creek			PIPELINE DESIGN FLOW ¹			ESTIMATED FLOWS FOR HYDROPOWER			Cove Efficiency = 0.8 Cove Max kW = 120			Power Generation (kWh) ⁴		
		Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min
29-Oct	10	11.0	20.0	6.2	9.0	18.0	4.2	6	4.2	6	4.2	2478	2478	1734	2478	1734
30-Oct	10	12.0	20.0	6.2	10.0	18.0	4.2	6	4.2	6	4.2	2478	2478	1734	2478	1734
31-Oct	10	11.0	22.0	6.2	9.0	20.0	4.2	6	4.2	6	4.2	2478	2478	1734	2478	1734
1-Nov	11	11.0	22.0	6.2	9.0	20.0	4.2	6	4.2	6	4.2	2478	2478	1734	2478	1734
2-Nov	11	12.0	22.0	6.2	10.0	20.0	4.2	6	4.2	6	4.2	2478	2478	1734	2478	1734
3-Nov	11	12.0	21.0	6.1	10.0	19.0	4.1	6	4.1	6	4.1	2478	2478	1693	2478	1693
4-Nov	11	11.0	21.0	6.0	9.0	19.0	4.0	6	4.0	6	4.0	2478	2478	1652	2478	1652
5-Nov	11	11.0	20.0	6.0	9.0	18.0	4.0	6	4.0	6	4.0	2478	2478	1652	2478	1652
6-Nov	11	11.0	20.0	6.3	9.0	18.0	4.3	6	4.3	6	4.3	2478	2478	1776	2478	1776
7-Nov	11	11.0	19.0	6.2	9.0	17.0	4.2	6	4.2	6	4.2	2478	2478	1734	2478	1734
8-Nov	11	11.0	18.0	6.0	9.0	16.0	4.0	6	4.0	6	4.0	2478	2478	1652	2478	1652
9-Nov	11	11.0	18.0	6.0	9.0	16.0	4.0	6	4.0	6	4.0	2478	2478	1652	2478	1652
10-Nov	11	10.0	17.0	5.7	8.0	15.0	3.7	6	0.0	6	0.0	2478	2478	0	2478	0
11-Nov	11	11.0	17.0	5.4	9.0	15.0	3.4	6	0.0	6	0.0	2478	2478	0	2478	0
12-Nov	11	11.0	16.0	5.3	9.0	14.0	3.3	6	0.0	6	0.0	2478	2478	0	2478	0
13-Nov	11	11.0	17.0	5.3	9.0	15.0	3.3	6	0.0	6	0.0	2478	2478	0	2478	0
14-Nov	11	11.0	17.0	5.7	9.0	15.0	3.7	6	0.0	6	0.0	2478	2478	0	2478	0
15-Nov	11	11.0	17.0	5.2	9.0	15.0	3.2	6	0.0	6	0.0	2478	2478	0	2478	0
16-Nov	11	11.0	17.0	5.1	9.0	15.0	3.1	6	0.0	6	0.0	2478	2478	0	2478	0
17-Nov	11	10.0	17.0	5.1	8.0	15.0	3.1	6	0.0	6	0.0	2478	2478	0	2478	0
18-Nov	11	11.0	17.0	5.1	9.0	15.0	3.1	6	0.0	6	0.0	2478	2478	0	2478	0
19-Nov	11	11.0	17.0	4.8	9.0	15.0	2.8	6	0.0	6	0.0	2478	2478	0	2478	0
20-Nov	11	11.0	17.0	4.7	9.0	15.0	2.7	6	0.0	6	0.0	2478	2478	0	2478	0
21-Nov	11	11.0	17.0	4.9	9.0	15.0	2.9	6	0.0	6	0.0	2478	2478	0	2478	0
22-Nov	11	11.0	17.0	5.3	9.0	15.0	3.3	6	0.0	6	0.0	2478	2478	0	2478	0
23-Nov	11	10.0	17.0	5.0	8.0	15.0	3.0	6	0.0	6	0.0	2478	2478	0	2478	0
24-Nov	11	11.0	17.0	5.2	9.0	15.0	3.2	6	0.0	6	0.0	2478	2478	0	2478	0
25-Nov	11	11.0	20.0	5.6	9.0	18.0	3.6	6	0.0	6	0.0	2478	2478	0	2478	0
26-Nov	11	11.0	20.0	5.2	9.0	18.0	3.2	6	0.0	6	0.0	2478	2478	0	2478	0
27-Nov	11	11.0	20.0	5.2	9.0	18.0	3.2	6	0.0	6	0.0	2478	2478	0	2478	0
28-Nov	11	11.0	20.0	5.4	9.0	18.0	3.4	6	0.0	6	0.0	2478	2478	0	2478	0
29-Nov	11	11.0	20.0	5.4	9.0	18.0	3.4	6	0.0	6	0.0	2478	2478	0	2478	0
30-Nov	11	11.0	20.0	5.6	9.0	18.0	3.6	6	0.0	6	0.0	2478	2478	0	2478	0
1-Dec	12	11.0	20.0	5.6	9.0	18.0	3.6	6	0.0	6	0.0	2478	2478	0	2478	0
2-Dec	12	11.0	20.0	5.6	9.0	18.0	3.6	6	0.0	6	0.0	2478	2478	0	2478	0
3-Dec	12	11.0	20.0	5.8	9.0	18.0	3.8	6	0.0	6	0.0	2478	2478	0	2478	0
4-Dec	12	11.0	20.0	5.8	9.0	18.0	3.8	6	0.0	6	0.0	2478	2478	0	2478	0
5-Dec	12	10.0	19.0	5.8	8.0	17.0	3.8	6	0.0	6	0.0	2478	2478	0	2478	0
6-Dec	12	10.0	19.0	5.8	8.0	17.0	3.8	6	0.0	6	0.0	2478	2478	0	2478	0
7-Dec	12	10.0	19.0	5.5	8.0	17.0	3.5	6	0.0	6	0.0	2478	2478	0	2478	0
8-Dec	12	9.9	19.0	5.4	7.9	17.0	3.4	6	0.0	6	0.0	2478	2478	0	2478	0
9-Dec	12	9.6	19.0	5.2	7.6	17.0	3.2	6	0.0	6	0.0	2478	2478	0	2478	0
10-Dec	12	9.4	19.0	4.8	7.4	17.0	2.8	6	0.0	6	0.0	2478	2478	0	2478	0

Assumptions:

1. Pipeline Design Flow = Flows in High Creek minus 2 cfs (required to stay in creek); maximum flow of 30 cfs
2. Flows for Hydropower in Coveville are based on pipeline design flow times 15.6%; with a maximum of 6 cfs and minimum of 4 cfs
3. Flows for Hydropower in Richmond are based on pipeline design flow times 84.4%; times an additional 70% for upstream usage; with a maximum of 14 cfs and minimum of 5 cfs
4. Power Generation for both sites are based on 80% efficiency and 24 hours of operation per day

Total Hrs = 8760

Date	Month	Flow Data in High Creek			PIPELINE DESIGN FLOW ¹			ESTIMATED FLOWS FOR HYDROPOWER			Cove Efficiency = 0.8 Cove Max kW = 120			Power Generation (kWh) ⁴					
		Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min			
11-Dec	12	9.5	19.0	4.8	7.5	17.0	2.8	6	0.0	2478	2478	0	2478	2478	0	2478			
12-Dec	12	9.7	19.0	4.8	7.7	17.0	2.8	6	0.0	2478	2478	0	2478	2478	0	2478			
13-Dec	12	9.6	19.0	5.6	7.6	17.0	3.6	6	0.0	2478	2478	0	2478	2478	0	2478			
14-Dec	12	9.6	19.0	5.5	7.6	17.0	3.5	6	0.0	2478	2478	0	2478	2478	0	2478			
15-Dec	12	9.6	19.0	5.4	7.6	17.0	3.4	6	0.0	2478	2478	0	2478	2478	0	2478			
16-Dec	12	9.3	18.0	5.0	7.3	16.0	3.0	6	0.0	2478	2478	0	2478	2478	0	2478			
17-Dec	12	9.3	18.0	5.2	7.3	16.0	3.2	6	0.0	2478	2478	0	2478	2478	0	2478			
18-Dec	12	9.3	18.0	5.4	7.3	16.0	3.4	6	0.0	2478	2478	0	2478	2478	0	2478			
19-Dec	12	9.3	18.0	5.4	7.3	16.0	3.4	6	0.0	2478	2478	0	2478	2478	0	2478			
20-Dec	12	9.5	18.0	5.4	7.5	16.0	3.4	6	0.0	2478	2478	0	2478	2478	0	2478			
21-Dec	12	9.4	18.0	5.4	7.4	16.0	3.4	6	0.0	2478	2478	0	2478	2478	0	2478			
22-Dec	12	9.3	18.0	5.6	7.3	16.0	3.6	6	0.0	2478	2478	0	2478	2478	0	2478			
23-Dec	12	9.1	15.0	5.4	7.1	13.0	3.4	6	0.0	2478	2478	0	2478	2478	0	2478			
24-Dec	12	9.0	16.0	5.4	7.0	14.0	3.4	6	0.0	2478	2478	0	2478	2478	0	2478			
25-Dec	12	9.2	17.0	5.2	7.2	15.0	3.2	6	0.0	2478	2478	0	2478	2478	0	2478			
26-Dec	12	9.3	17.0	5.2	7.3	15.0	3.2	6	0.0	2478	2478	0	2478	2478	0	2478			
27-Dec	12	9.4	17.0	5.3	7.4	15.0	3.3	6	0.0	2478	2478	0	2478	2478	0	2478			
28-Dec	12	9.4	17.0	5.0	7.4	15.0	3.0	6	0.0	2478	2478	0	2478	2478	0	2478			
29-Dec	12	9.3	17.0	5.1	7.3	15.0	3.1	6	0.0	2478	2478	0	2478	2478	0	2478			
30-Dec	12	9.1	17.0	5.0	7.1	15.0	3.0	6	0.0	2478	2478	0	2478	2478	0	2478			
31-Dec	12	9.1	16.0	5.0	7.1	14.0	3.0	6	0.0	2478	2478	0	2478	2478	0	2478			
		720,000			810,000			270,000			610,000			700,000			360,000		

Expected Monthly Power Generation (kWh) ⁴						
Month	Coveville Site			Richmond Site		
	Head = 254			Head = 175		
	Mean	Max	Min	Mean	Max	Min
January	80,000	80,000	0	0	0	0
February	70,000	70,000	0	0	0	0
March	80,000	80,000	60,000	0	0	0
April	60,000	70,000	20,000	120,000	120,000	70,000
May	80,000	80,000	80,000	120,000	120,000	120,000
June	70,000	70,000	40,000	120,000	120,000	110,000
July	60,000	80,000	0	120,000	120,000	60,000
August	0	50,000	0	80,000	120,000	0
September	0	0	0	50,000	90,000	0
October	80,000	80,000	60,000	0	0	0
November	70,000	70,000	20,000	0	0	0
December	80,000	80,000	0	0	0	0
Total	730,000	810,000	280,000	610,000	690,000	360,000



GARY R. HERBERT
Governor
SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

Division of Water Rights

MICHAEL R. STYLER
Executive Director

KENT L. JONES
State Engineer/Division Director

ORDER OF THE STATE ENGINEER

For Application to Appropriate Water Number 25-11254 (A80157)

Application to Appropriate Water Number 25-11254 (A80157) in the name of Coveville Irrigation Company, was filed on November 10, 2014, to appropriate 6.00 cubic feet per second (cfs) of water from a surface source located South 1190 feet and West 440 feet from the N $\frac{1}{4}$ Corner of Section 7, T14N, R2E, SLB&M, and is to be rediverted: (1) Surface - South 1320 feet and East 280 feet from the NW Corner of Section 18, T14N, R2E, SLB&M (Upper High Creek Canal). The water will be returned at the following point: return point - South 1500 feet and West 1885 feet from the NE Corner of Section 13, T14N, R1E, SLB&M. The water is to be used for the Coveville Irrigation Company Power Plant (hydro-electric, rated at 100 KW, year-round). The water is to be used in all or portion(s) of Section 13, T14N, R1E, SLB&M.

Notice of the application was published in The Herald Journal on November 20 and 27, 2014. No protests were received.

Richmond Irrigation Company has undertaken a project to pipe their Upper High Creek Canal to conserve water and provide pressurized irrigation to its shareholders. High Creek is divided by its users, based on their rights and the flow available and the applicant, Coveville Irrigation Company, as well as Webster Irrigation Company, divert their proportionate rights into their own pipelines approximately 7000 feet downstream of Richmond Irrigation Company's diversion. This application proposes to divert water through Richmond Irrigation Company's diversion and pipeline and return the water at the Coveville/Webster diversion, generating hydropower.

In addition to their irrigation season rights, Coveville Irrigation Company and Webster Irrigation Company have rights to 1.0 cfs each from October 1 to March 31. Richmond Irrigation Company therefore bypasses at least 2.0 cfs past its diversion throughout the year. High Creek also recharges the groundwater aquifer in the Cove area that is tapped for irrigation rights. The State Engineer is concerned that if the stream is de-watered between the Richmond and Webster/Coveville diversions, it would cause impacts to the hydrologic system, downstream users, and adversely affect the natural stream environment.

It is the opinion of the State Engineer that there is water that can be diverted for non-consumptive hydropower generation under this application and that this application can be approved without impairing existing water rights if certain conditions are met. The applicant is put on notice that diligence must be shown in pursuing the development of this application which can be demonstrated by the completion of the project as proposed in the application.

It is, therefore, **ORDERED** and Application to Appropriate Water Number 25-11254 (A80157) is hereby **APPROVED** subject to prior rights and the following conditions:

1. The applicant may only divert the flows in the stream above 2.0 cfs leaving 2.0 cfs of the flow of the stream undiverted.
2. The applicant shall construct and maintain a diversion structure designed to bypass a minimum of 2.0 cfs, or the entire flow of the stream if the flow is less than 2.0 cfs.

Inasmuch as this application proposes to divert water from a surface source, the applicant is required to contact the Stream Alteration Section of the Division of Water Rights at 801-538-7240 to obtain a Stream Alteration permit in addition to this Application to Appropriate Water.

The applicant is strongly cautioned that other permits may be required before any development of this application can begin and it is the responsibility of the applicant to determine the applicability of and acquisition of such permits. Once all other permits have been acquired, this is your authority to develop the water under the above referenced application which under Sections 73-3-10 and 73-3-12, Utah Code Annotated, 1953, as amended, must be diligently prosecuted to completion. The water must be put to beneficial use and proof must be filed on or before May 31, 2020, or a request for extension of time must be acceptably filed; otherwise the application will be lapsed. This approval is limited to the rights to divert and beneficially use water and does not grant any rights of access to, or use of land or facilities not owned by the applicant.

As noted, this approval is granted subject to prior rights. The applicant shall be liable to mitigate or provide compensation for any impairment of or interference with prior rights as such may be stipulated among parties or decreed by a court of competent jurisdiction.

Proof of beneficial use is evidence to the State Engineer that the water has been fully placed to its intended beneficial use. By law, it must be prepared by a registered engineer or land surveyor, who will certify to the location, uses and extent of your water right.

Upon the submission of proof as required by Section 73-3-16, Utah Code, for this application, the applicant must identify every source of water used under this application and the amount of water used from that source. The proof must also show the capacity of the sources of supply and demonstrate that each source can provide the water claimed to be diverted under this right as well as all other water rights which may be approved to be diverted from those sources.

Failure on your part to comply with the requirements of the applicable statutes may result in the lapsing of this Application to Appropriate Water.

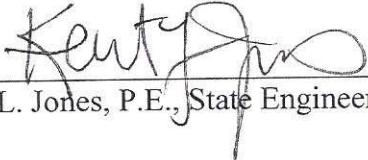
It is the applicant's responsibility to maintain a current address with this office and to update ownership of their water right. Please notify this office immediately of any change of address or for assistance in updating ownership.

ORDER OF THE STATE ENGINEER
Application to Appropriate Water Number
25-11254 (A80157)
Page 3

Your contact with this office, should you need it, is with the Northern Regional Office. The telephone number is 435-752-8755.

This Order is subject to the provisions of Administrative Rule R655-6-17 of the Division of Water Rights and to Sections 63G-4-302, 63G-4-402, and 73-3-14 of the Utah Code which provide for filing either a Request for Reconsideration with the State Engineer or an appeal with the appropriate District Court. A Request for Reconsideration must be filed with the State Engineer within 20 days of the date of this Order. However, a Request for Reconsideration is not a prerequisite to filing a court appeal. A court appeal must be filed within 30 days after the date of this Order, or if a Request for Reconsideration has been filed, within 30 days after the date the Request for Reconsideration is denied. A Request for Reconsideration is considered denied when no action is taken 20 days after the Request is filed.

Dated this 14th day of May, 2015.


Kent L. Jones, P.E., State Engineer

Mailed a copy of the foregoing Order this 14th day of May, 2015 to:

Coveville Irrigation Company
c/o Secretary
1151 East 13000 North
Cove, UT 84320

Division of Water Rights
Stream Alteration Section

BY: 
Sonia R. Nava, Applications/Records Secretary



GARY R. HERBERT
Governor
SPENCER J. COX
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
Division of Water Rights

MICHAEL R. STYLER KENT L. JONES
Executive Director *State Engineer/Division Director*

MAY 14 2015

ORDER OF THE STATE ENGINEER
For Application to Appropriate Water Number 25-11262 (A80202)

Application to Appropriate Water Number 25-11262 (A80202) in the name of Richmond Irrigation Company, was filed on January 30, 2015, to appropriate 25.00 cubic feet per second (cfs) of water from a surface source located South 1190 feet and West 440 feet from the N¹/₄ Corner of Section 7, T14N, R2E, SLB&M (High Creek). The water is to be used for Richmond Irrigation Power Plant (hydro-electric, not rated, year-round). The water is to be used in all or portion(s) of Section 7, T14N, R2E, SLB&M.

Notice of the application was published in The Herald Journal on February 12 and 19, 2015. No protests were received.

Richmond Irrigation Company provides irrigation water to its shareholders, primarily through its Upper High Creek Canal, under Water Right 25-4933. The Company has undertaken a project to pipe their canal and must dissipate pressure along the pipeline. They propose to install a hydropower generation facility along the pipe to generate electrical power to recoup the costs of the pipeline installation. Water diverted will be for irrigation and not returned to the natural stream (High Creek).

High Creek is divided by its users, based on their rights and the flow available. Webster Irrigation Company and Coveville Irrigation Company divert their proportionate rights approximately 7000 feet downstream of Richmond Irrigation Company's diversion into their own pipelines. High Creek also recharges the groundwater aquifer in the Cove area that is tapped for irrigation rights.

The State Engineer is concerned that if additional water is diverted solely for hydropower and wasted, it would impair downstream users and cause new impacts to the hydrologic system and the natural stream environment. However, if the applicant is limited to only generate hydropower with the water beneficially used under its irrigation rights, no new impacts would occur under this application.

It is the opinion of the State Engineer that water diverted for irrigation can be used for non-consumptive hydropower generation under this application and that this application can be approved without impairing existing water rights if certain conditions are met. The applicant is put on notice that diligence must be shown in pursuing the development of this application which can be demonstrated by the completion of the project as proposed in the application.

It is, therefore, **ORDERED** and Application to Appropriate Water Number 25-11262 (A80202) is hereby **APPROVED** subject to prior rights and the following conditions:

1. The applicant shall only generate hydropower with the water diverted for beneficial use under its irrigation rights without waste.
2. The period of use is limited to those times when water is diverted for beneficial use for irrigation.

Inasmuch as this application proposes to divert water from a surface source, the applicant is required to contact the Stream Alteration Section of the Division of Water Rights at 801-538-7240 to obtain a Stream Alteration permit in addition to this Application to Appropriate Water.

The applicant is strongly cautioned that other permits may be required before any development of this application can begin and it is the responsibility of the applicant to determine the applicability of and acquisition of such permits. Once all other permits have been acquired, this is your authority to develop the water under the above referenced application which under Sections 73-3-10 and 73-3-12, Utah Code Annotated, 1953, as amended, must be diligently prosecuted to completion. The water must be put to beneficial use and proof must be filed on or before May 31, 2020, or a request for extension of time must be acceptably filed; otherwise the application will be lapsed. This approval is limited to the rights to divert and beneficially use water and does not grant any rights of access to, or use of land or facilities not owned by the applicant.

As noted, this approval is granted subject to prior rights. The applicant shall be liable to mitigate or provide compensation for any impairment of or interference with prior rights as such may be stipulated among parties or decreed by a court of competent jurisdiction.

Proof of beneficial use is evidence to the State Engineer that the water has been fully placed to its intended beneficial use. By law, it must be prepared by a registered engineer or land surveyor, who will certify to the location, uses and extent of your water right.

Upon the submission of proof as required by Section 73-3-16, Utah Code, for this application, the applicant must identify every source of water used under this application and the amount of water used from that source. The proof must also show the capacity of the sources of supply and demonstrate that each source can provide the water claimed to be diverted under this right as well as all other water rights which may be approved to be diverted from those sources.


Failure on your part to comply with the requirements of the applicable statutes may result in the lapsing of this Application to Appropriate Water.

It is the applicant's responsibility to maintain a current address with this office and to update ownership of their water right. Please notify this office immediately of any change of address or for assistance in updating ownership.

Your contact with this office, should you need it, is with the Northern Regional Office. The telephone number is 435-752-8755.

This Order is subject to the provisions of Administrative Rule R655-6-17 of the Division of Water Rights and to Sections 63G-4-302, 63G-4-402, and 73-3-14 of the Utah Code which provide for filing either a Request for Reconsideration with the State Engineer or an appeal with the appropriate District Court. A Request for Reconsideration must be filed with the State Engineer within 20 days of the date of this Order. However, a Request for Reconsideration is not a prerequisite to filing a court appeal. A court appeal must be filed within 30 days after the date of this Order, or if a Request for Reconsideration has been filed, within 30 days after the date the Request for Reconsideration is denied. A Request for Reconsideration is considered denied when no action is taken 20 days after the Request is filed.

Dated this 14th day of May, 2015.



Kent L. Jones, P.E., State Engineer

Mailed a copy of the foregoing Order this 14th day of May, 2015 to:

Richmond Irrigation Company
PO Box 156
Richmond, UT 84333

Division of Water Rights
Stream Alteration Section

BY: 

Sonia R. Nava, Applications/Records Secretary

PRIMELINE®

MARATHON ELECTRIC TWO BEARING INDUCTION GENERATOR TYPICAL SUBMITTAL DATA

BASE FRAME: 405

WINDING: T4054126-R2

DATE: 12-19-03

NAMEPLATE DATA

KW	PH	HZ	POLE	SYNC RPM	FL RPM	VOLTS	AMPS	FRAME	ENCLOS
120	3	60	4	1800	1830	480	172	405	ODP

DUTY	INSUL	S.F.	AMB (°C)	OVERSPEED RPM	HIGH VOLT. RES. L-L (OHMS)
CONT	F	1.0	40	2250	0.057

LOAD CURVE DATA – BASED ON 480 VOLTS

LOAD	KW	AMPS	RPM	TQ (ft-lb)	EFF (%)	PF (%)	KVA	KVAR	TEMP RISE (°C)
NL	0	43.0	1800	0	NA	5.5	35.5	33.5	
0.25	27	56.5	1805	115	91.0	57.5	47.0	38.5	
0.50	60	92.0	1815	248	93.6	78.0	76.5	48.0	
0.75	90	132	1825	368	93.6	83.0	110	60.5	
1.00	120	172	1830	498	93.0	84.5	143	76.0	105
1.25	150	213	1840	618	91.7	83.5	177	99.0	
LOCKED ROTOR		745	0	575		31.0	619	588	
BREAKAWAY		505	1925	1000		54.0			

EQUIVALENT CIRCUIT REACTANCES (PER UNIT) Zref = 1.785 ohms, TIME CONSTANTS

Stator Resistance R1	Rotor Resistance R2	Stator Reactance X1	Rotor Reactance X2	Magnetizing Reactance Xm	Transient Reactance X'd	Sub-Transient Reactance X''d	OPEN CKT T'd0 (sec)	SHORT CKT T'd (sec)
0.023	.016	0.126	.140	3.391	0.264	0.191	0.575	0.029

SUPPLEMENTAL INFORMATION

WK²: 25.0 lb-ft²

EXHIBIT C
PRICING

Pricing is as described heretofore for a Term of 20 years.

PRICE SCHEDULE

Period kWh Rate:

The rate(s) set forth on this Exhibit C shall control over any contrary provision in the Agreement. For all Energy and Environmental Attributes made available to Utility during the period commencing on the Commercial Operation Date and ending on the last day of the twentieth Commercial Operation Year, the following rate(s) shall apply:

Rate:	5.5 ¢/kWh flat rate
Period:	Year-round, no exception for season or time of day
Term:	20 years

The Utility shall cover all transmission and wheeling charges associated with conveying the generated power from the Delivery Point to the Network.

Commercial Operation Year shall mean the period commencing on the Commercial Operation Date and ending on the last day of the calendar year in which the Commercial Operation Date occurs, and, thereafter, all subsequent one-year periods during the Term.