OPERATION & MAINTENANCE AGREEMENT
FOR THE
BRADLEY LAKE HYDROELECTRIC PROJECT
BETWEEN
HOMER ELECTRIC ASSOCIATION, INC.
AND
ALASKA ENERGY AUTHORITY

AEA CONTRACT #19049

EFFECTIVE AS OF JANUARY 1, 2019

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FOR THE
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THIS OPERATION & MAINTENANCE AGREEMENT FOR THE BRADLEY LAKE HYDROELECTRIC PROJECT ("Agreement") dated as of January 1, 2019, is entered into by the HOMER ELECTRIC ASSOCIATION, INC. ("Operator") and the ALASKA ENERGY AUTHORITY ("Authority").

WITNESSETH

WHEREAS, the Authority is a public corporation of the State of Alaska duly created, organized, and existing pursuant to AS 44.83, and authorized by law to sell electric power generated by the Bradley Lake Project ("Project");

WHEREAS, the Bradley Lake Project Power Sales Agreement (the "Power Sales Agreement") provides that the Bradley Lake Project Management Committee ("BPMC") shall arrange for the operation and maintenance of the Project and Project Related Facilities and adopt an annual budget of Project Costs;

WHEREAS, to provide for the operation and maintenance of the Project and Project Related Facilities, the BPMC entered into a Master Maintenance and Operating Agreement with the Authority under which the Authority, subject to review and approval by the BPMC, shall enter into contracts necessary to perform services for, or operation and maintenance of, the Project and Project Facilities;

WHEREAS, the Authority is authorized under AS 44.83.396 to enter into agreements for the operation and maintenance of power projects owned by the Authority with a "qualified utility";

WHEREAS, the BPMC is authorized under the Master Maintenance and Operating Agreement and its Bylaws adopted pursuant to the terms of the Power Sales Agreement, to approve contracts for the operation and maintenance of Project facilities;

WHEREAS, the Operator has been identified in the "Bradley Lake Hydroelectric Project Agreement for the Wheeling of Electric Power and Related Services" ("Services Agreement") dated June 29, 1989, by the participating utilities as an appropriate entity to operate and maintain the Project;

WHEREAS, the Operator is both a qualified utility within the meaning of AS 44.83.425(3) and is authorized to operate and maintain a power project acquired or constructed by the Authority; and,

WHEREAS, the Parties have entered into this Agreement to set forth the terms and conditions under which the Operator will operate and maintain the Project.

NOW, THEREFORE, The Parties hereby agree:

Section 1 - Construction and Definitions.

A. Construction.

This Agreement is executed in accordance with the terms of the following underlying agreements (the "Underlying Agreements"):

1. Bond Resolution;

2. Power Sales Agreement;

3. Master Maintenance and Operating Agreement.

This Agreement in its entirety, including the exhibits and the Underlying Agreements, once approved by the BPMC, represents the entire Agreement of the Operator, BPMC, and the Authority relating to the operation and maintenance of the Bradley Lake Hydroelectric Project. Nothing in this Agreement is intended to alter the rights and obligations of the Authority and any Purchaser under the Underlying Agreements. In the event of a conflict between a term or provision in this Agreement and any Underlying Agreement, the term or provision in any Underlying Agreement shall control, and the Underlying Agreements shall be construed in the order of precedence in which they are listed above. In the event of a conflict between any provision in the body of this Agreement and any provision contained in an exhibit hereto, the former shall control.

B. For purposes of this Agreement, the following definitions apply.

1. "Agreement" means this Operation & Maintenance Agreement for the Bradley Lake Project.

2. "Annual Project Costs" shall have the meaning given to that term by the Power Sales Agreement.

3. "Authority" means the Alaska Energy Authority as established by AS 44.83, and any successor agency thereto and, unless the context otherwise requires, the employees, agents, and contractors who are directly responsible, respectively, to the Authority.

4. "Bond Resolution" shall have the meaning given to that term by the Power Sales Agreement.

5. "BPMC" means the Bradley Lake Project Management Committee as established under the December 8, 1987, Power Sales Agreement and operating under its Bylaws.

6. "Construction" has the meaning given in AS 36.90.300(c).

7. "Contract Year" means the twelve-month period starting July 1 of a calendar year through and including June 30 of the next succeeding calendar year.

8. "Emergency" means an event as declared by the Operator resulting from an unforeseen combination of circumstances or the resulting state that requires immediate action to protect or preserve the Project (or its operations), Project personnel, or public health and safety.

9. "Extraordinary Costs" means costs for operations, maintenance, repair or equipment replacement which were not anticipated to materialize in the Contract Year and not provided for in the Project O&M Budget.

10. "Effective Date" means January 1, 2019.

11. "FERC" means the Federal Energy Regulatory Commission, an agency of the United States Department of Energy, or its successor agency.

12. "Master Maintenance and Operating Agreement" means the Master Maintenance and Operating Agreement dated as of May 24, 1994, between the Authority and the BPMC.

13. "O&M" means operation and maintenance of the Project and includes the duties set forth in this Agreement.

14. "Operation and Maintenance Standards" means the Plant Operation and Maintenance Manual and equipment installation, operation, and maintenance manuals.

15. "Operator" means Homer Electric Association, Inc. (HEA) or its authorized assignee (pursuant to Section 21) and the employees, agents, and contractors who are directly responsible, respectively, to either.

16. "Optional Project Work" shall have the meaning given to that term by the Power Sales Agreement.

17. "Participant" shall have the meaning given to that term by the Power Sales Agreement.

18. "Party" or "Parties" means each or all the signatories to this Agreement or a party's authorized assignee.

19. "Percentage Share" shall have the meaning given to that term by the Power Sales Agreement.

20. "Power" or "Electric Power" means electric energy or electric capacity, or both, except where the context requires a distinction, in which case electric energy is expressed in kilowatt hours, and electric capacity is expressed in kilowatts.

21. "Power Sales Agreement" means the Bradley Lake Power Sales Agreement, dated December 8, 1987, among the Authority; the Municipality of Anchorage (d.b.a. Municipal Light and Power (ML&P)); the City of Seward (d.b.a. Seward Electric System (SES)); the Chugach Electric Association, Inc. (Chugach); the Golden Valley Electric Association, Inc. (GVEA); the Alaska Electric Generation and Transmission Cooperative, Inc. (AEG&T), the Matanuska Electric Association, Inc. (MEA); and the Homer Electric Association, Inc. (HEA), as it may be amended from time to time.

22. "Professional Services" has the meaning given in AS 36.90.300(c).

23. "Project" means the Bradley Lake power generation facility and the associated transmission and substation facilities described in Exhibit A.

24. "Project Budget" means the budget for Annual Project Costs as adopted and amended pursuant to Section 13 of the Power Sales Agreement.

25. "Project Capacity" shall have the meaning given to that term by the Power Sales Agreement.

26. "Project O&M Budget" means the budget for the operation and maintenance of the Project as adopted and amended pursuant to Section 13 of the Power Sales Agreement.

27. "Project Related Facilities" shall have the meaning given to that term by the Master Maintenance and Operating Agreement.

28. "Prudent Utility Practices" shall have the meaning given to that term by the Power Sales Agreement.

29. "Purchaser" or "Purchasers" shall have the meaning given to that term by the Power Sales Agreement.

30. "Required Project Work" shall have the meaning given to that term by the Power Sales Agreement.

31. "Work Rules" means the Bradley Lake Hydroelectric Site Work Rules as initially published by the Authority and as amended from time to time by the Authority and the BPMC.

Section 2 - Term and Termination of Agreement.

A. Effective Date: This Agreement shall take effect as of the Effective Date, subject to approval of the Agreement by the BPMC and execution by the authorized representatives of the Operator and Authority.

B. Term: The term of this Agreement shall be five and one-half (5.5) years from the Effective Date and shall automatically be renewed for successive three-year terms thereafter until terminated as provided herein and subject to the termination rights set forth in Section 2(c) and Section 7(d). For the initial term and any renewal term, notice of termination shall be given no less than two (2) years in advance of the end of the term. Upon such termination, if a new operator has not been selected, the Authority or its designee shall temporarily take over the duties of the Operator until such time as a new contract has been established transferring operation and maintenance responsibility over the Project to a Qualified Contractor.

C. Termination for Cause: In the event the Authority and/or the BPMC reasonably determines that the Operator's performance of its obligations under this Agreement, without immediate remedial actions, could cause substantial damage to the Project or endanger public health or safety, the Authority and/or the BPMC shall promptly notify the Operator and shall identify the areas where performance must be remedied. The Operator shall submit to the Authority and BPMC a plan for remedial action to correct its performance within twenty-four (24) hours of such notice. The Authority or its designee shall have the right to temporarily take over the duties of the Operator until a remedial action plan reasonably satisfactory to the Authority and BPMC is agreed to by the Operator. If the Authority, BPMC and Operator fail to agree to a remedial action plan within thirty (30) days of the date of notice provided to the Operator, the Authority, with the consent of the BPMC may immediately terminate this Agreement. Upon such termination, the Authority or its designee shall temporarily take over the duties of the Operator until such time as a new contract has been established transferring operation and maintenance responsibility over the Project to a Qualified Contractor.

D. Termination for Convenience: This Agreement may be terminated upon no less than six (6) months' notice if (i) the termination is approved by the Authority and a majority of the members of the BPMC constituting not less than seventy-five percent (75%) of Project Capacity, and (ii) the Authority contracts to transfer operation and maintenance responsibility over the Project to an entity organized to operate generation assets in the Railbelt.

Section 3 - Qualified Utility/Contractor Status.

The Authority has determined that the Operator is a Qualified Utility/Contractor within the meaning of AS 44.83.425(3) and 3 AAC 105.300 and has met all the requirements thereof.

Section 4 - Operator's General Duties and Right to Subcontract.

To the extent authorized by the Project O&M Budget, or as otherwise funded in accordance with this Agreement, the Operator shall:

A. Operate and maintain the Project in accordance with local, state and federal regulations to make power available to the Purchasers in an amount equal to the amount the Purchasers may schedule from the Project, within the limitations imposed by available Project capability, available water, and the scheduling procedures adopted by the BPMC;

B. Perform such cost analyses and reliability studies such as, but not limited to, those outlined by NERC (North American Reliability Corporation) GADS (Generation Availability Data System) or equivalent benchmarking system, which are recommended by the O&D Committee and approved by the BPMC.

C. Manage operations in accordance with Prudent Utility Practice, performance benchmarks, standards and/or indicators as recommended by the BPMC O&D Committee and approved and budgeted for by the BPMC. The BPMC O&D committee will recommend to the BPMC how the performance indicators will be tracked and reported by the Operator. Performance indicators and Work Rules may be reviewed and amended by the BPMC O&D committee annually;

D. Bring to the attention of the Authority and the BPMC Required Project Work and perform or cause to be performed such Required Project Work to the extent funds are made available for such purpose; provided, however, that any procurement or other contracts related to Required Project Work must be in writing and must be approved in advance pursuant to Section 13 of the Power Sales Agreement.

The Operator shall not perform or cause to be performed Optional Project Work unless such Optional Project Work is approved and funded by the BPMC and assigned to the Operator by the Authority.

Notwithstanding the foregoing, the Operator may subcontract operation and maintenance of the Project or Project Related Facilities in accordance with Section 5(Q) of this Agreement to the extent authorized in the Project O&M Budget or with the written approval of the Authority and the BPMC. Each subcontract will contain a specific clause stating that it is subject to the provisions of the Master Maintenance and Operating Agreement if, and to the extent appropriate. In performing its duties hereunder, Operator, or any subcontractor, is performing solely as an independent contractor. Unless otherwise approved by the BPMC, The Operator cannot create a related entity for purposes of providing services under this Agreement, if and to the extent the Operator does, that entity will be treated as the Operator for purposes of this Agreement.

Section 5 - Operator's Specific Duties.

To the extent authorized by the Project O&M Budget or as otherwise funded in accordance with this Agreement, the Operator shall:

A. Coordinate operation, maintenance, repair and other work schedules with the Purchasers in accordance with the Bradley Lake Allocation and Scheduling Procedures;

B. Operate, maintain, and repair the Project in accordance with the Work Rules and Prudent Utility Practice. In addition, the Operator shall use and update the Automated Maintenance Management System or such equivalent system as the BPMC may direct. The Work Rules shall be maintained at the Project site. Any revisions to the Work Rules shall be effective within a designated period of time after notice having due regard to the nature of the revisions requested and necessary project budget revisions;

C. Provide all material, labor, engineering and other technical support, subcontract management, and training to operate, maintain, and repair the Project, and all tools, equipment, spare parts, materials, and supplies needed to perform work under this Agreement in accordance with Prudent Utility Practices and the annual budget for the Project;

D. Identify, and comply with all applicable federal, state, and local government laws, regulations, and procure, obtain, maintain, and comply with all required permits. A list of Bradley Lake Project specific Federal and State agency requirements by which the Operator must abide are delineated in Exhibit B. If the Operator elects to contest an order issued by a local government, state or federal agency (other than the Authority), the Operator shall promptly notify the Authority and the BPMC. The Authority shall provide such assistance and cooperation as may reasonably be required in order to obtain and maintain any applicable permits;

E. Provide security and access in accordance with a mutually agreed plan; the BPMC Chair, or its designee, is to approve any access to the Project site for personnel other than those associated with the Authority, Operator or any subcontractors working on the Project site. All visitors are to be identified and a description of the purpose of each shall be documented in a log of visitors and presented along with the Operator's Report to the BPMC.

F. Read, maintain, and operate all Project metering devices, record such readings, and maintain or forward data, forms, and/or relevant graphs consistent with Prudent Utility Practices and as required by the BPMC;

G. Make annual and long-term recommendations to the Authority and BPMC for:

1. operation, maintenance, repair, replacement, and modification of Project facilities;

2. installation of additional protective relaying, instrumentation, control systems, or other apparatus as necessary to maintain or improve the Project and interconnected system reliability, integrity, efficiency, and safety; and,

3. a five (5) year and twenty-five (25) year schedule of estimated equipment modifications, replacements, additions, and disposals with cost estimates where practicable;

H. Prepare monthly and year-end operating and financial statements, in a form acceptable to the Authority and the BPMC relating to the performance of this Agreement as recommended by the O&D Committee and the Finance Committee and approved by the BPMC;

I. Provide qualified operational and maintenance personnel as identified in the BPMC approved annual budget with the ability to perform the duties assigned to the Operator under this Agreement. Except to the extent required by training as set forth in the Annual Budget, shift change, or an emergency, a minimum of two (2) employees or subcontractors, but not more than four (4) employees or subcontractors, are always to be on-site absent pre-approval from the Authority and the BPMC for any variance in the number of employees needed;

J. Propose and conduct an annual training program for operations and maintenance personnel, consistent with Prudent Utility Practices for approval by the Authority and the BPMC as part of the Annual Budget. The BPMC or the Authority may require the Operator to undertake additional training which the BPMC or the Authority deems necessary, however, funding for such additional training shall be addressed through an amendment to the Annual Budget;

K. Following a protective relay or alarm action that causes a forced outage, and upon observation or notification, interpret the cause, identify corrective measures, and take corrective action as the situation warrants. The Operator shall document any such actions within three (3) days of their accomplishment and provide a report to the Authority and the BPMC;

L. Adhere to Prudent Utility Practices to protect equipment, personnel, and the general public from hazards arising from equipment failure such as electrical faults, vandalism, and mechanical failure and repair and report damaged facilities to the Authority, to the BPMC on behalf of the Authority and any appropriate law enforcement authority, as soon as practicable following each occurrence;

M. Maintain a daily project log and record the operating characteristics of the power plant equipment and machinery as required;

N. Maintain the Project living quarters, including expenses for utility services, as a cost of operation and maintenance, except that expenses for personal cell phones, internet, and television are not the responsibility of the BPMC or the Authority;

O. Update, keep and make available to the Authority, BPMC, or any Purchaser the required Project documents, as-built drawings, and other records, including records to meet FERC license requirements and records required by any project related insurance agreements;

P. Perform water and power operation studies as required to integrate power from the Project into the Purchasers' systems with due regard for the capability limits of the Project planned water reserves, and Purchasers' power needs;

Q. Arrange for and administer subcontracts or agency agreements related to the O&M of the Project; provided, however, that Operator agrees to comply with any written procedures adopted by the BPMC and approved by the Authority concerning the review, approval and administration of any such contracts, subcontracts, or agreements;

R. Conduct all technical, operation, and maintenance inspections of the Project in accordance with FERC and other permits or agency requirements, and submit inspection and other reports to the appropriate entities as directed by the Authority;

S. Support the Project by coordinating related technical and operating activities with the Purchasers;

T. Use and maintain a computerized maintenance management system software package, the contents and capabilities of which are to be determined by the BPMC O&D Committee;

U. Maintain supervisory control and data acquisition equipment;

V. Recommend project efficiencies to lower Project costs or increase annual energy;

W. Provide an annual inventory report to the Authority and the BPMC in a form directed by the BPMC;

X. Notify the Authority and the BPMC of any lost time injuries, major safety incident, and any other significant events as soon as practicable within twenty-four (24) hours (Initial notification shall be followed by an investigation and a written report within five (5) business days of the incident);

Y. Invoice the Authority for budgeted items monthly;

Z. Assist with environmental studies;

AA. Monitor and report on key benchmarks and/or indicators on a regular basis as directed by the O&D committee and approved by the BPMC;

BB. Attend meetings of the BPMC in Anchorage as directed; and,

CC. Perform such other additional duties related to the operation, maintenance and repair of the Project as may be included in the Project O&M Budget.

Section 6 - Accounts, Records and Audits.

In keeping records for work performed under the Agreement, the Operator shall utilize the accounting system required of public utilities and licensees by the FERC for electric plants. The Operator shall make its records available for review and copy at reasonable times. The Operator shall retain copies of all invoices, payroll records, and other supporting documents sufficient for an audit of all expenditures, for three (3) years following the close of each Fiscal Year.

The Operator will furnish the Authority and copy the BPMC with operating and financial statements related to work performed under the Agreement on a monthly basis in conjunction with its monthly invoicing. If delivery of those statements is unreasonably delayed, the Authority or the BPMC may, with its own staff or agents, perform all work necessary to collect the data reasonably necessary, but only at such times and in such a manner as will not unreasonably interfere with Operator's operations under the Agreement. The Authority may withhold payment of the monthly invoice until such time as the statements are received or otherwise collected. Any payments found to be unnecessarily or wrongfully held shall accrue simple interest at the legal rate of interest at the time payment was due, until paid by the Authority.

Section 7 - Budget.

A. The Operator shall be compensated in accordance with the terms set forth in Exhibit C.

B. In accordance with schedules provided by the Authority or the BPMC, the Operator shall timely prepare and submit each year to the Authority and the BPMC a draft O&M budget for the Project for the following Contract Year by the end of January.

C. The draft O&M budget shall be based upon prudent estimates and anticipated O&M requirements and expenditures and reflect appropriate accounting and budgetary principles for utilities. The draft budget shall be prepared in a format and schedule provided to the Operator by the BPMC.

D. Not less than 30 days prior to the beginning of a Contract Year the Project O&M Budget shall be adopted for the Contract Year pursuant to Section 13 of the Power Sales Agreement.

E. The Operator shall perform its duties in a manner consistent with the Project O&M Budget except as provided in Sections 8 and 9 below. If the Operator makes a determination during any Contract Year that it cannot perform its obligations under the Agreement without an increase in the expenditures authorized under the Project O&M Budget, the Operator shall report such finding to the Authority and the BPMC and shall submit a revised budget for the BPMC's review and approval. In the event that (1)the revised budget is not adopted pursuant to Section 13 of the Power Sales Agreement, (2) the Operator determines that it cannot perform its obligations under this Agreement, and (3) the requested increase is not the result of Operator's failure

to provide prudent estimates in the draft O&M Budget, the Operator may terminate this Agreement upon one hundred fifty (150) days' notice to the Authority and the BPMC.

Section 8 - Extraordinary Costs.

A. If the Operator learns of an event or other contingency which involves an Extraordinary Cost, the Operator shall promptly notify the Authority and the BPMC of the circumstances and request authorization to make such expenditures pursuant to Section 13 of the Power Sales Agreement.

B. After notice is given as provided for in Section 8.A. and if required by the Authority or the BPMC, the Operator shall develop a scope, schedule, budget and proposed plan of work and deliver the same with a request to proceed as soon as practicable. The Authority and BPMC shall respond in writing to the Operator's request as soon as practicable after the receipt of the plan. Upon approval obtained pursuant to Section 13 of the Power Sales Agreement, the Operator shall perform such work consistent with the plan. The Operator shall not incur any Extraordinary Costs without the written approval obtained pursuant to Section 13 of the Power Sales Agreement except as provided in Section 9 below.

Section 9 - Emergency Expenditures.

The Operator shall take such actions as it reasonably believes are necessary in an Emergency, including incurring unbudgeted costs. If, in the reasonable judgment of the Operator, the Emergency requires the Operator to incur costs prior to obtaining written approval from the BPMC pursuant to Section 13 of the Power Sales Agreement, the Operator shall notify the BPMC of the Emergency as promptly as practicable with due regard to the Emergency. Such Emergency Expenditures are subject to audit and approval by the Authority and the BPMC, as described in Section 10 C. below.

Section 10 - Disbursement of Funds.

A. The normal and routine costs of performing under this Agreement shall be initially paid by the Operator.

B. The Operator shall submit complete written invoices to the Authority for payment with cost summaries and support documents as reasonably requested by the Authority and the BPMC.

C. The Authority, after consultation with the BPMC or its designee, shall expeditiously arrange for payment of all invoices, including invoices for Emergency expenditures, and shall work with the Operator to promptly resolve any disputed billings. All such invoices shall be subject to audit and approval by the Authority and the BPMC, such approval shall not be unreasonably withheld. In the event the Authority and/or BPMC disputes any amount set forth in such an invoice, the Authority shall arrange for payment of the undisputed amounts of the invoice.

D. Subject to the availability of funds, the Authority shall reimburse the Operator for all undisputed costs under this Agreement consistent with the Annual Budget as approved and for all Emergency Expenditures and pre-approved Extraordinary Costs.

E. Any undisputed amount on an invoice submitted to the Authority by the Operator shall be paid by the Authority within thirty (30) days of receipt of the invoice. Any disputed amount not paid within thirty (30) days of receipt of the invoice, but later determined to be properly owed and payable, shall accrue simple interest at the legal rate of interest at the time payment was due, until paid by the Authority.

Section 11 - Access to Operator's Facilities.

Authority and BPMC personnel or agents shall be granted reasonable access to the Project and the Project-owned equipment and facilities on the Operator's premises upon reasonable notice and subject to security measures, for the purpose of inspection and testing.

Section 12 - Use of Project Living Quarters.

A. Use of living quarters is established by the Work Rules. Any modification to the Work Rules requires the approval of the Authority and the BPMC.

B. The Operator shall schedule occupation of the Project living quarters in an efficient manner. The Operator shall include in such scheduling, quarters for visiting employees of the Operator, subcontractors, the Authority, and the BPMC as needed and available.

C. On-site operations and maintenance personnel shall have priority in the use of permanent residences at the Project.

Section 13 - Insurance and Indemnity.

A. General.

1. During the term of this Agreement, the Operator shall use its best efforts to maintain insurance satisfactory to the Authority and the BPMC covering injury to persons or property suffered by any Party or a third party, as a result of errors, omissions, or operations which arise both out of and during the course of this contract by the Operator or by any of its contractors (the "Operator's Insurance").

2. The Operator's Insurance shall be the primary coverage for the exposures delineated in subsection (1) above with respect to the State of Alaska, its officers, agents, and employees, the BPMC, its officers, agents, member utilities, and employees, and the Operator, its officers, agents, and employees, as named insureds. Any additional insurance or self-insurance separately maintained by the State, except insurance purchased on behalf of

the BPMC, shall be in excess of the Operator's Insurance and shall not contribute to it.

3. The cost of the required insurance shall be paid by the Operator and included in the Project O&M Budget as an operating cost.

4. Policies maintained under this Agreement must provide that any cancellation, non-renewal or material change be upon thirty (30) days written notice to all named insureds. Insurance Companies shown on the certificate of insurance must be acceptable to the Authority and BPMC. The Authority and BPMC shall not unreasonably withhold approval of such Insurance Company.

5. The Operator shall, at least thirty (30) days prior to cancellation, non-renewal, or material change, provide the Authority with written evidence of insurance which replaces or reinstates the required insurance coverage.

6. Proof of the insurance required of the Operator will be furnished to the Authority prior to beginning work under this Agreement. Prior to February 1 of each year thereafter, evidence of insurance shall be provided by the Operator.

7. The Operator's obligation to obtain and maintain insurance coverage pursuant to this section shall be subject to the general availability of such coverage under reasonable terms and conditions. If one or more of the required insurance coverages is not available under reasonable terms and conditions, the Operator shall, under the guidance and direction of the BPMC and State of Alaska, use its best efforts to obtain substantively equivalent insurance coverage acceptable to the BPMC, the Authority, and the State of Alaska.

8. If, after utilizing its best efforts, the Operator is unable to obtain the required insurance coverage under reasonable terms and conditions, as reasonably determined by the Operator, the Operator shall request a waiver of the relevant insurance requirement. The request shall outline steps taken by the Operator to obtain such insurance and shall disclose quotations received for coverage. To the extent the waiver will not materially affect the safe and prudent operation of the Project, the Authority, after consulting with the State of Alaska and the BPMC, will not unreasonably withhold approval of the requested waiver. Failure to furnish satisfactory evidence of insurance or failure to maintain the policy without complying with this subsection shall result in a material breach of this Agreement.

9. The Authority shall maintain a policy or policies of property damage insurance insuring the Project against loss resulting from fire, explosion, accident, or equipment breakdown for the probable maximum loss of the Project, with deductible amounts as established after consultation with the BPMC. The policy or policies shall contain a waiver of subrogation with respect to the Operator and the BPMC and list the Operator as an additional named insured

to the extent of its interests. The Authority shall annually, prior to February 1st each year, furnish evidence of insurance to the Operator and the BPMC.

B. Workers' Compensation Insurance.

1. The Operator shall provide and maintain, for all employees engaged in work under this Agreement, coverage as required by AS 23.30.045, and, where applicable, any other statutory obligations including but not limited to Federal U.S.L. & H. and Jones Act requirements. The policy must waive subrogation against the State and provide for an All States Endorsement.

2. The Operator is responsible for workers' compensation insurance for any of its subcontractors who directly or indirectly provide services under this Agreement.

C. Commercial General Liability Insurance.

1. The Operator shall maintain commercial general liability insurance. The Operator shall secure insurance as required to meet its obligations under this subsection. The BPMC and the Authority shall be included as additional insureds for the insurance required in this subsection and shall not, by their inclusion, be responsible to the insurance carrier for payment of the premium. These insurance policies must also contain a provision providing for cross liability or severability of interest.

2. The commercial general liability insurance shall be subject to the following limits of liability:

(i) Bodily Injury and Property Damage Liability of a minimum $5,000,000 Combined Single Limits each occurrence and affording insurance for Premises Operations, Owners and Contractors' Protective, Independent Contractors, Products/Completed Operations, Blanket Contractual Liability, Broad Form Property Damage, and personal Injury Liability;

(ii) Commercial Auto Liability Insurance covering all vehicles used by the Operator in the performance of services under this agreement with minimum coverages of not less than $5,000,000 combined single limit each occurrence for bodily injury and property damage liability.

D. Additional Liability Insurance.

The Operator shall maintain, or ensure that contractor provides, the following additional insurance, where applicable, for aircraft and watercraft owned or contracted for by the Operator.

1. Owned Aircraft and Non-Owned Aircraft with seating capacity of five seats or less, except commercial, scheduled flights, with limits of liability not less

than: $5,000,000 for Bodily Injury per occurrence; $1,000,000 for Passenger Liability per seat; and $5,000,000 for Property Damage Liability per occurrence. Coverage must include Slung Cargo exposures. Except in an Emergency, if an aircraft with more than five seat capacity is used, then special coverage and limits must be obtained and must be approved by the Authority and BPMC.

2. Owned Watercraft and Non-Owned Watercraft with limits of liability not less than $1,000,000 per combined single limit each occurrence for property and $5,000,000 for marine pollution coverage for fuel and hazardous materials cargo per combined single limit each occurrence, or as otherwise required and budgeted for by the BPMC.

E. Subcontractor's insurance.

Any contract entered with a subcontractor, other than a Purchaser, by the Operator to perform part of its obligations hereunder shall require the same insurance provisions stated in paragraphs (b) through (d) of this Section 13. The Operator may request a waiver of part or all of such provisions where such waiver will not materially affect the Project and the Operator determines the waiver is necessary to its performance of this Agreement. The Authority, after consultation with the BPMC, will not unreasonably withhold approval of such waiver.

F. Indemnity.

The Authority, to the extent permitted by applicable law and subject to the availability of funds, and the Operator (as "Indemnitor") agrees to and shall indemnify and defend the other, its officers, employees, and agents (as "Indemnitee") for tort liability for all claims for damages and injuries of any character or nature whatsoever arising from the sole negligence of the Indemnitor, including its officers, employees or agents in relation to performance under this Agreement. Indemnitor agrees to assume the defense thereof and to pay all expenses (including attorney's fees) connected therewith. For purposes of this section, "sole negligence" shall include acts or omissions of the Indemnitor, its officers, employees, or agents, or any combination thereof, and situations where such acts or omissions, in combination with the negligence of third parties combines to cause injury or damage to persons or property. It shall not include situations where the acts or omissions of the Indemnitor, its officers, employees, or agents combines with the negligence of Indemnitee to cause such injury, which situations shall be governed by the provisions of the subsection below relating to concurrent negligence.

Each party agrees that liability (including costs of defense and attorney's fees) for claims arising from the concurrent negligence of both Parties shall be apportioned according to the respective percentage of fault attributable to each Party as determined by agreement or by the trier of fact.

G. Uninsured Loss.

The costs of any loss or damage to or arising out of the Project not covered by insurance, including uninsured deductibles and indemnity (including the Operator's indemnity under Section 13.F, above), shall be included in the Project Budget as an operating cost unless and to the extent caused by the willful act or gross negligence of the Operator. The Operator shall be responsible for paying any such costs if and to the extent the loss or damage is determined to be caused by or arises out of the Operator's willful act or gross negligence. For the avoidance of doubt, the Operator acknowledges its responsibility, as a Participant, to pay its Percentage share of Annual Project Costs, including its Percentage Share of all amounts included in the Project Budget.

Section 14 - Dispute Resolution.

A. Continued Performance.

Pending resolution of a disputed matter, the Parties will continue performance of their respective obligations pursuant to this Agreement.

B. Dispute Resolution.

1. Any controversy or claim arising out of or relating to this Agreement, or the breach or interpretation thereof, shall be resolved exclusively by the process set forth in this Section. In the event of a dispute between the Parties, the Parties agree to attempt to resolve the dispute informally before the BPMC. If the Parties are not able to resolve the dispute informally before the BPMC within sixty (60) days following formal notice of the dispute being provided to the BPMC, the Parties agree to seek resolution of the dispute through arbitration.

2. Subject to the requirements of Section 14(B)(1), this agreement to arbitrate shall be specifically enforceable. A Party may apply to any court with jurisdiction for interim or conservatory relief, including without limitation a proceeding to compel arbitration. The arbitrator must have familiarity with O&M agreements, operation of remote work sites, hydroelectric dams, and electric energy production issues. The number of arbitrators shall be one unless a panel is needed to obtain arbitrators with the proper experience and background. If the Parties are not able to agree upon the selection of an arbitrator or arbitrators, within twenty (20) days of a demand for arbitration, the arbitrator[s] shall be selected by a Superior Court judge in Alaska upon the application of a Party. The Superior Court judge shall select the arbitrator[s] in accordance with the terms of this Agreement. The place of arbitration shall be in Anchorage, Alaska. Alaska law shall apply without regard to principles of conflict of laws. The arbitration shall be conducted in accordance with the Commercial Rules of the American Arbitration Association. The arbitrator[s] shall have the authority to award damages consistent with the expressed terms of this Agreement, but shall have no authority to award punitive, special, or indirect damages. The arbitrator[s] may

consider contributory negligence and shall be entitled to issue injunctive and other equitable relief.

3. The Parties shall each pay its own costs of the arbitration and shall equally share the arbitrator fees and expenses. Judgment on the award rendered by the arbitrator[s] may be entered in any court having jurisdiction thereof.

Section 15 - Notices; Time and Holidays Computation; Designated Representatives.

A. Any notice or demand involving a claim of default, breach of the Agreement, or notice of a dispute shall be sent to the appropriate Party by registered or certified mail.

B. Notice to the Authority and/or BPMC required by this Agreement shall be given in the first instance electronically and then followed as soon as practicable by a notice in writing as provided herein. Any notice required to be given to any Party by this Agreement shall be effective when it is received by such Party. In computing any period of time from such notice, the period shall commence at 12:01 p.m. on the date of receipt of such notice. Notice to Operator required by this Agreement shall be in writing directed to the General Manager of Homer Electric Association, Inc., 3977 Lake Street, Homer, Alaska 99603. Notice to the BPMC required by this Agreement shall be to the then-current Chair of the BPMC with a copy to the then-current Chair of the BPMC O&D Committee. Except as to a notice or report required by Section 5, notice to the Authority required by this Agreement shall be in writing addressed to the Executive Director of the Alaska Energy Authority, 813 West Northern Lights Blvd., Anchorage, Alaska 99503. A notice or report to the Authority required by Section 5 shall be given in the manner directed by the Authority in writing.

C. If the date for making any payment or performing any act is a day on which banking institutions are closed in the place where payment is to be made or a legal holiday, payment may be made, or the act performed on the next succeeding day which is neither a legal holiday nor a day when banking institutions are closed.

D. Each Party shall designate a representative to act for it in matters not requiring formal action by its governing bodies. Either Party may at any time change its designated representative by giving written notice to the other Party.

Section 16 - Remedies Cumulative.

No remedy conferred upon or reserved to the Parties under this Agreement, other than the dispute-resolution provisions contained in Section 14 above, is intended to be exclusive of any other remedy or remedies existing at law or equity.

Section 17 - Availability of Information.

The Parties shall make available to each other, for inspection and copying during business hours, all books, records, plans and other information relating to any calculation or determination to be made under this Agreement.

Section 18 - Effect of Termination.

A. Not less than seventy-five (75) days prior to the date of any scheduled termination of this Agreement the parties shall meet for the purpose of discussing arrangements necessary for the orderly takeover of the duties of the Operator by the Authority. At or before the meeting the Operator shall submit to the Authority a takeover plan which sets forth the actions which in the opinion of the Operator are reasonably required to accomplish the takeover, and any budget amendments necessary to accomplish the plan. The Authority shall review and either approve or modify the plan and budget. The Operator shall perform in accordance with the approved plan, subject to any budgetary constraints.

The Authority shall secure funding for and pay any Extraordinary Costs reasonably incurred by the Operator in performing its duties hereunder, including close-out and demobilization costs.

B. Following termination of this Agreement for any cause, the Authority shall have the right and a reasonable amount of time, not to exceed six (6) months, to arrange disposition of Project-owned equipment on the Operator's premises.

C. Within 60 days after termination of this Agreement, the Operator shall deliver to the Authority all Project books and records in the Operator's possession or control.

Section 19 - Force Majeure.

A. No Party to the Agreement shall be liable to other Parties for, or be in breach of or default under this Agreement because of, any delay in performance or any delay or failure to deliver, receive or accept delivery of energy due to any of the following events:

1. Any cause or condition beyond such Party's reasonable control which such Party is unable to overcome by the exercise of reasonable diligence (including but not limited to: fire, flood, earthquake, volcanic activity, wind, drought and other acts of the elements; court order and act of civil, military or governmental authority; strike, lockout and other labor dispute excluding those disputes wrongfully caused by the Operator; riot, insurrection, sabotage and war; breakdown of or damage to facilities or equipment; electrical disturbance originating in or transmitted through such Party's electric system or any electric system with which such Party's system is interconnected; and, any act or omission of any person or entity other than such Party, or Party's contractors or suppliers of any tier or anyone acting on behalf of such Party); or

2. Any action taken by such Party which is reasonably necessary or prudent to protect the operation, performance, integrity, reliability or stability of the Project or of such Party's electric system or any electric system with which such Party's electric system is interconnected, whether such actions occur automatically or manually.

B. In the event of any delay excused under this section, the time for performance thereby delayed shall be extended by a period of time reasonably necessary to compensate for such delay. No cost adjustment will be allowed, only time extensions as appropriate. Nothing contained in this paragraph shall require any Party to settle any strike, lockout or other labor dispute. Each Party shall give the other Parties prompt written notice of any delay which the Party giving notice considers to be an excusable delay of its performance.

Section 20 - Third Party Beneficiaries.

The BPMC, as representative of the Purchasers, is a third-party beneficiary of this Contract, with the legal right to enforce the provisions hereof. In any action by the BPMC for damages, the Operator shall have the right to assert against the BPMC any defense which it could have asserted against the Authority. The raising of any such defense by the Operator shall not affect any right of a purchaser or the BPMC under the Master Maintenance and Operating Agreement or Power Sales Agreement.

Section 21 - Assignment of Contract.

This Agreement shall be binding upon and inure to the benefit of the successors, legal representatives or assigns of the Operator and the Authority. However, the Operator may not assign the Agreement or any part thereof without the prior written consent of the Authority and the BPMC. No such assignment shall operate to relieve the Operator of its obligations under this Agreement. If the Authority discontinues its current legal existence, unless the rights, powers and duties of the Authority are transferred to a successor entity with substantially the same expertise within the meaning of Prudent Utility Practices, powers and duties as the Authority, its obligations under the Agreement will automatically be assigned to the BPMC, without the need for consent by the Operator.

Section 22 - Exhibits.

The provisions of the following exhibits attached hereto are incorporated by reference herein:

Exhibit A -	Project Facility Description
Exhibit B -	Project Specific Federal and State Agency Requirements
Exhibit C -	Operator Compensation

Section 23 - Multiple Copies.

This Agreement may be executed in several counterparts, each of which shall be an original, but all of which shall constitute one and the same instrument.

Section 24 - Amendment.

Any amendment or modification to this Agreement must be in writing and signed by the Operator and the Authority and approved by the BPMC.

Section 25 - Waiver Not Continuing.

Any waiver at any time by any Party of its rights with respect to any default of the other Party hereto, or with respect to any other matter arising in connection with the Agreement, shall not be considered a waiver with respect to any subsequent default, right or matter. Any delay short of the statutory period of limitations in asserting or enforcing any right shall not be deemed a waiver of such right.

Section 26 - Severability.

If any provision of the Agreement shall be finally adjudicated by a court of competent jurisdiction to be invalid or unenforceable, the remainder of the Agreement shall be unaffected by such adjudication and all the remaining provisions of the Agreement shall remain in full force and effect as if such provision so adjudicated to be invalid had not been included herein.

Section 27 - Conduct in Accord with Applicable Law.

The Operator and the Authority agree that at all times during the term of the Agreement, they shall conduct themselves in accord with all applicable laws and permits, and they will undertake no action contrary to such laws or permits. Moreover, the Parties specifically acknowledge that the Agreement is subject to all applicable provisions of state and federal law concerning work hours and occupational safety and health standards. The interpretation and application of the Agreement and the actions of the parties hereunder shall be governed by the laws of the State of Alaska.

Section 28 - Equal Employment Opportunity.

A. The Operator may not discriminate against any employee or applicant for employment because of race, religion, color, national origin, age, physical disability, sex, or marital status, change in marital status, pregnancy or parenthood when the reasonable demands of the position do not require distinction on such basis. The Operator shall take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, religion, color, national origin, age, physical disability, sex, or marital status. This action must include, but need not be limited to, the following: employment, upgrading, demotion,

transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training including apprenticeship. The Operator shall post in conspicuous places, available to employees and applicants for employment, notices setting out the provisions of this paragraph.

C. The Operator shall state, in all solicitations or advertisements for employees to work in performance of this Agreement, that it is an equal opportunity employer and that all qualified applicants will receive consideration for employment without regard to race, religion, color, national origin, age, physical disability, sex, or marital status.

D. The Operator shall send to each labor union or representative or workers with which the Operator has a collective bargaining agreement or other contract or understanding a notice advising the labor union or workers' representative of the Operator's commitments under this section and post copies of the notice in conspicuous places available to all employees and applicants for employment.

E. In the event the Operator subcontracts any part of the services to be performed under this Agreement, the Operator agrees to make good faith efforts to utilize Disadvantaged Business Enterprises, to affirmatively solicit their interest, capability and prices and to furnish documentation of the results of all such direct contacts on forms provided by or acceptable to the Authority.

F. The Operator shall make, keep and preserve such records necessary to determine compliance with equal employment opportunity obligations and shall furnish required information and reports. All records must be retained and made available in accordance with Section 6, Accounts, Records and Audits.

G. The Operator shall include the provisions of this section in every contract and shall require the inclusion of these provisions in every contract entered into by any of its Subcontractors, so that these provisions will be binding upon each Subcontractor.

Section 29 - Officials not to Benefit.

No member of or delegate to Congress, United States Commissioner or other officials of the federal, state, political subdivision or local government shall be admitted to any share or part of this Agreement or any benefit to arise therefrom.

Section 30 - Proselytizing.

The Operator agrees that it will not engage on a full or part time basis, during the period of this Agreement, any person or persons who are or have been employed by the Authority during the ninety (90) day period immediately following the date of the termination of the employment of that person with the Authority; except those persons who have been regularly retired or approved in writing by the Authority.

Section 31 - Ownership of Work Products.

Work products produced under this Agreement, except items which have pre-existing copyrights, are the property of the Authority. Payments to the Operator for services hereunder include full compensation for all work products produced by the Operator and its Subcontractors and the Authority shall have royalty free non-exclusive and irrevocable right to reproduce, publish, or otherwise use, and to authorize others to use, such work products.

Section 32 - Taxes.

As a condition of performance of this Agreement, the Operator shall pay all federal, state and local taxes incurred by the Operator and shall require their payment by any Subcontractor or any other persons in the performance of this Agreement.

Section 33 – Headings.

The section headings of the Agreement are for convenience only, and do not purport to, and shall not be deemed to, define, limit or extend the scope or intent of the section to which they pertain.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed the day and year first above written.

HOMER ELECTRIC ASSOCIATION, INC.

By _____
Bradley P. Janorschke
General Manager

Date March 12, 2019

ALASKA ENERGY AUTHORITY

By _____
Curtis W. Thayer
Executive Director

Date 3/12/19

APPROVED BY BPMC:

By: _____
Cory Borgeson
Chairman

Date: 3/20/19

EXHIBIT A

PROJECT DESCRIPTION

1. PROJECT DESCRIPTION

1.1 General

The Bradley Lake Hydroelectric Project is located on the Kenai Peninsula at the northeast end of Kachemak Bay about 27 miles from Homer. The project contributes to the electrical generating capacity of Alaska's Railbelt serving customers from the Kenai Peninsula to Fairbanks.

Major elements of the project include a concrete faced, rockfill dam, to raise the level of Bradley Lake about 100 feet, an ungated spillway having discharge capacity of 23,800 cfs at pool elevation 1190.6, a diversion tunnel which also serves as a low level outlet, a submerged intake leading to the power tunnel which, including the vertical shaft, is 19,152 ft. long, a surface powerhouse located on the shore of Kachemak Bay and a tailrace channel into the bay. All elevations given in this report are referred to Bradley Lake Project Datum, at which zero is equal to 13.63 ft. above MLLW at Bear Cove.

The two unit plant has a nominal generating capacity of 126 MW at 917 ft. net head. Each generating unit consists of a six jet, vertical shaft Pelton turbine driving a 63 MVA generator at 0.95 power factor. The penstock for a future third unit was also constructed as part of the initial project development.

Usable storage in Bradley Lake at full pool (El 1180) is about 280,000 acre ft. The project is connected to the existing Kenai Peninsula transmission line, consisting of two parallel 115 KV lines. The lines run through the Fox River Delta to connect with Homer Electric Association's Fritz Creek to Soldotna Transmission line. A summary of pertinent project data is given on Table 1.

1.2 History of Development

The power generation potential of Bradley Lake was first studied by the U.S. Corps of Engineers and presented in a report dated March 1955. The project was authorized by Congress in 1962, but despite its feasibility federal funds were not available for its construction. The Alaska Energy Authority (then Alaska Power Authority) assumed responsibility for the project in 1982. Preliminary plans were developed and field investigations started in 1982. In April 1984, the Authority submitted an application for license to the Federal Energy Regulatory Commission (FERC). The license to construct the project was issued on December 31, 1985.

The first major contract, "Site Preparation" was let in 1986 and was completed in 1987. This contract included on-site access roads, barge dock, airstrip, permanent facilities, construction camp and diversion tunnel. Following a one year hold on project construction, the General Civil Construction and Transmission Line Clearing Contracts were awarded in June 1988. The Powerhouse Construction Contract was awarded in December 1988 and the Transmission Line Construction Contract was awarded in June 1989. The General Civil Construction and the Powerhouse contracts were completed in August 1991.

The Alaska Energy Authority issued a contract for supply of the turbines and generators in 1987, and issued a contract for supply of the SCADA control systems in July 1989. Smaller contracts were also issued for transmission line surveying, geotechnical surveys, and construction of the Middle Fork and Nuka Diversion structures.

The diversion tunnel was closed in October 1990, however all inflow to the reservoir was released through the fish water bypass lines. Actual storage in the lake started in Spring 1991 when enough water was available to meet downstream minimum flow requirements. A contract for Site Rehabilitation was issued in June 1991. Both units were released to dispatch in August 1991, and the Project was declared in commercial operation September 1, 1991. Construction of the project was completed on November 21, 1991, with the completion of the Site Rehabilitation work.

2. DESIGN

2.1 Geology

Except for the transmission line, all major elements of the project are founded on or in the bedrock. The geology of the site is composed of Upper Mesozoic Age metamorphic rocks of the McHugh Complex. Most probably this melange is composed of turbidites which have been slightly to moderately metamorphosed. Rock types encountered are graywacke, argillite, chert, dacite, metatuff, and greenstone. The graywacke, argillite and mixtures of these rocks are dominant. Chert occurs as nodules and lenses in the argillite and metatuff with some massive beds up to 15 ft thick. The diabase occurs as intrusive dikes generally 10 to 20 ft. in width with some dikes about 40 ft. thick. The metatuff is metamorphosed, volcanic pyroclastic debris. Frequently it is intermixed with the argilite but some layers up to 15 ft. thick were encountered. Over all it constitutes less than 5% of the rock mass. The greenstone is metamorphosed volcanics. It constitutes less than 3% of the rock mass.

Except where severely weathered, the argillite is moderately hard to hard. The graywacke, chert, dacite and greenstone are hard to very hard. Foliation (cleavage) is poorly developed in the argillite and bedding, when identifiable,

is poorly preserved. The graywacke is massive and displays neither bedding nor foliation. The chert, dacite and metatuffs are generally massive and show no foliation.

Jointing is well developed. It is widely spaced in the graywacke and moderately to widely spaced in the argillite. Generally three or more sets are observed resulting in blocky structures. There are some open joints in the abutment of the dam and spillway, especially in the rock know between these structures. Hydrosplitting tests made along the tunnel alignment showed low in situ horizontal stresses ranging from 0.9 to 0.5 of overburden pressure at the depth tested. Open vertical joints striking about parallel to the tunnel (N60 W) were observed during tunnel construction at depths of rock cover of as much as 1200 ft.

2.2 Geologic Hazards

The Pacific Plate is subducting under the North American Plate south of the coast of Alaska. The Aleutian Arc trench marks the surface juncture of the two plates. This trench trends northeast-southwest and is located about 185 miles southeast of the site at its nearest approach. The Pacific Plate is moving north relative to the North American plate. The subduction zone dips northwest and the upper contact of the subduction plate, the Benioff zone, lies at a depth of about 30 miles beneath the surface at the site. The Benioff zone is the locus of great earthquakes.

Major faults in the general site area are the Border Ranges fault which lies under Kachemak Bay and the Eagle River Fault which crosses Bradley Lake near its head. Both faults trend NE-SW (about N45 E) parallel to regional structure. Three smaller faults lie within the site area crossing the power tunnel between the intake and the powerhouse. These are the Bull Moose Fault, the Bradley River Fault, and the Bear Cub Fault. These trend approximately north-south. The Bull Moose and Bradley River are the larger of these faults. Where crossed by the power tunnel they consisted of a series of gouge-filled anastamosing shears, a few feet to possibly 20 ft. wide, separated by sound rock and extending over a width of 300 to-400 ft. Lineations and minor shears parallel these faults.

Seismicity of the site was investigated by Woodward-Clyde Consultants, "Report on Bradley Lake Hydroelectric Project Design Earthquake Study," 1981. They recommended an MCE earthquake spectrum normalized to zero period horizontal acceleration of 0.75g with a duration of 25 seconds for design of critical, water retaining structures. Vertical acceleration was taken at 2/3 horizontal. This spectrum has been the basis of investigation and design of the dam, spillway and powerhouse. Dynamic analyses of the dam and spillway were made using Finite Element analyses. The time-history used an accelerogram whose spectrum envelopes the Woodward~ Clyde

spectrum. This was constructed by combining two appropriate shorter earthquake records. This hybrid earthquake has a duration of 28 seconds.

The nearest active volcanoes are Mt. St. Augustine and Mt. Redoubt which are more· than 100 miles from the site across Cook Inlet. Renewed activity poses no direct threat to the project other than possible development of a tsunami due to large mudflows or slides from Mt. St. Augustine and ash falls from both.

The coast of Alaska has been subjected to tsunami generated by uplift due to offshore earthquakes. This hazard was investigated by Stone & Webster Engineering Corporation in a report presented to this Board (September 1987). This report indicated an annual probability (combined earthquake and volcanic activity) of about 0.007 for a wave height at the powerhouse reaching El 25 BLP Datum (El 38.63 MLLW datum). The powerhouse is designed to withstand water to this level without damage.

The hazards of seiche in Bradley Lake due to earthquake and the possibility of a wave generated in the lake by a liquefaction generated slide in the Bradley Glacier delta were investigated. It was concluded waves from these sources would not damage the dam or spillway. The mountain sides surrounding Bradley Lake are bare rock which has been scoured by late Pleistocene and recent glaciation. Minor rockfalls may result from earthquake but slides which could cause overtopping are not a hazard. The Kachemak and Nuka glaciers are sufficiently far from the lake that ice falls or slides which might result from earthquake would not reach the lake.

2.3 Main Dam

The dam is a concrete faced, rockfill structure. Top of the embankment is El 1190. A parapet wall at the upstream face extends to El 1194. Normal full pool (crest of the spillway) is El 1180 and pool level under PMF is El 1190.6. The parapet wall is designed to provide wave protection during floods. The face slab is 12 inches thick, constant top to bottom. The toe plinth varies in width along its contact with the rock from 10.5 ft. to 13.3 ft. Minimum thickness varies from 3 ft. to 2.25 ft. depending on location and head. The face slab is underlain by a 12 ft. wide zone of crushed rock grading from fines (passing No. 200 mesh) to 3 inch size.

The toe plinth is founded on rock for its full length. General rock level in the river bottom is about El 1065 giving a nominal dam height to the top of the embankment of 125 ft. However, a narrow channel was found along the right side of the river bottom. This was excavated to bedrock, at its lowest point at El 1032, over a length of 28 ft. centered on the toe plinth and backfilled with concrete. Thus the dam is actually 158 ft. high above the lowest point in the bedrock. The rock surface drops slightly south of the left abutment under the gate shaft bench. In this area the rock is covered by overburden and some

rock fill. A concrete wall was constructed across this bench. This extends down to rock for its full length of about 175 ft. A single line grout curtain is located along it.

The single line ground curtain extends the full length of the toe plinth and into the abutments. Maximum hole depth is 110 ft. In general the rock was tight and takes were small. However several open joints were found in the abutments. These were grouted to refusal and check holes drilled and grouted.

Alternative types of dams considered in selecting a concrete face rock fill included a thick arch structure, a concrete gravity dam or a central core embankment dam. The concrete face rockfill was selected because of its excellent resistance to earthquake, relative cost, lack of suitable earth core material, and topographic constraints, especially space for the upstream cofferdam. Slopes upstream and downstream were established at 1.6H to 1V to restrict deformation under the MCE 0.75 g horizontal) to acceptable limits.

2.4 Spillway

The spillway is an ungated concrete gravity section with side slopes of 3H to 10V upstream and 8H to 10V downstream.

Crest length is 175 ft. at elevation 1180.00. Overall length of the spillway is 275 ft. Spillway discharge at PMF would be 23,800 cfs at a lake level of El 1190.6. A drainage and grouting gallery extends the full length of the spillway at or just above rock level. Access to this gallery is from the left abutment. A single line grout curtain having a depth of 30 to 50 ft. below rock surface inclined 20 upstream and fanning into both abutments was constructed. Drain holes are 3 inches diameter, five feet on centers, and 30 ft. deep except at the right abutment where a fan of holes 50 ft. to 60 ft. long were drilled. All seepage from the spillway drainage system is collected and discharged over a vee notch weir to permit monitoring.

Ice loading causes some tension in the upstream face at about El 1170. Accordingly reinforcing was placed in the upstream face. Dynamic analyses using the hybrid accelogram confirmed that stresses are within allowable and no lateral displacement of the spillway would occur under the MCE.

The spillway was model tested at Colorado State University. The model extended from well upstream of the power tunnel intake to well) downstream of the main dam. Water velocities along the toe of the main dam were measured and riprap along the downstream tow sized to prevent erosion in the event of spillway operations.

2.5 Power Tunnel & Intake

The power tunnel system consists of an upper tunnel 738 ft. long extending from the intake through the upper elbow, a vertical shaft 647 ft. deep and a lower elbow and lower tunnel with a total length of 17,767 ft. The lower tunnel is on a 1.67%) grade. The intake channel is about 350 ft. long, and the bottom at the intake is at El 1030. Dual high-pressure gates are installed in the upper tunnel about 520 ft. downstream of the tunnel portal in a vertical drywell. The gates are hydraulically actuated. An accumulator bank rides on the hydraulic system. This is sized to permit closing each gate without recharging even in the event of complete loss of power.

Provision is made for stoplogs at the intake portal. The same stoplogs can also be used at the intake portal of the diversion tunnel. A rock trap is provided just upstream of the intake portal.

The downstream 435 ft. of the lower tunnel is designated the manifold section. This section contains three wye-branch penstocks which extend to the powerhouse. Two are in service and one is closed by a hemispherical head to be used for a future third unit. The downstream end of the manifold is closed with a hemispherical head which can be removed as necessary for access to the tunnel. The manifold-penstock section and downstream portion of the tunnel for 2725 ft. upstream of the manifold are steel liner encased in concrete. Inside diameter of this section is 11 ft. Four drain pipes are located outside of the steel liner in the concrete encasement. Drain holes extend from these drains into rock at intervals of 10 and 20 ft. Seepage from these drains is collected and passed through the powerhouse where it can be measured. The remainder of the lower tunnel is 13 ft. ID with a 12 inch thick concrete lining. The vertical shaft and upper tunnel are 11 ft. ID lined with concrete.

The manifold-penstock section was pressure tested at 960 psi (1.9 times static head) for 1 hour before encasing it in concrete. There were no indications of distress, and distortions were very small and acceptable.

In situ horizontal stresses in the rock are low. To protect against possible hydro-splitting of the rock by leakage from the tunnel, the steel lining was carried to Sta. 31 +58 where rock cover was equal to 0.8 of the static head. The concrete lining was reinforced to Sta. 38+60. From Sta. 31 +60 to Sta. 35+60 the rock was high pressure grouted (500 psi) using squeeze grouting procedures. Selected areas of the remainder of the lower tunnel were also reinforced. High pressure grouting (250 psi) was done from Sta. 35+60 to Sta. 38+60 and at selected areas to Sta. 64+00 to ensure that open joints intersecting or close to the tunnel were filled with high strength grout. The tunnel was first filled to the then reservoir level, El 1076, in May 1991. A falling head test for a 12 hour duration was made in late May which showed an average leakage of only 58 gpm.

2.6 Powerhouse

The powerhouse has a concrete substructure with steel framed superstructure. It is founded entirely in rock, and the tailrace excavation is in rock for a modest distance away from the powerhouse. The powerhouse has been designed for safety against excessive structural stresses, sliding, overturning or flotation. Loading conditions include MCE, (0.75g) DBE (0.35g), high tides, storm high tide, tsunami, and various plant conditions such as in operation, servicing, and construction including appropriate factors of safety.

2.7 Diversion Tunnel

The diversion tunnel is approximately 407.5 ft. long and is located in the high rock spur between the spillway and the main dam. It has been converted to a low level outlet which is normally closed by a dual system of high pressure slide gates located in a deep dry well shaft. The tunnel is lined with concrete from the upstream portal to downstream of the gate shaft. Gate operation is by hydraulic actuators. There is a bank of accumulators which can open each gate completely in the event of loss of all power. The gates discharge through a steel penstock 10.5 ft. in diameter which extends past the downstream portal of the tunnel. Two 28 inch- diameter steel pipes encased in concrete extend through the entire length of the tunnel. These discharge through a system of 7 motor operated valves of different sizes so arranged that fish water releases can be made from the reservoir as necessary to maintain required flows in the Lower Bradley River of 40 to 100 cfs at Riffle Reach.

2.8 Diversions into Bradley Lake

As a part of the development of the Project, the Middle Fork of the Bradley River, a portion of the outflow from the Nuka Glacier, and a small tributary of Battle Creek were diverted into the reservoir.

2.8.1 Middle Fork Diversion

The Middle Fork Diversion is located approximately one mile north of Bradley Lake in an adjacent drainage at elevation 2160 on the Middle Fork Tributary of the Bradley River. The Diversion consists of a small intake basis and two reaches of open channel approximately 760 feet and 483 feet long, separated by a stilling basin which is located in a natural bog area, all of which were established by excavation. The Diversion conveys water from the Middle Fork of the Bradley River to Marmot Creek, a tributary to Bradley Lake, and operates in all seasons.

2.8.2 Nuka Diversion

Glacial melt forms a pond called Nuka Pool at the terminus of the Nuka Glacier. Nuka Pool lies on the divide between two drainages, discharging water both into the Upper Bradley River and into the Nuka River. Water discharged into the Upper Bradley River flows to Bradley Lake and that which is discharged to the Nuka River flows to the Kenai Fjords National Park.

The purpose of the Nuka Diversion is to cause the glacial melt water flowing through the Nuka Pool to flow in the upper Bradley River, except of an initial increment of flow which must be provided to the Nuka River in accordance with the June 1986 Contract between the Alaska Energy Authority and the U.S. Department of Interior. In compliance with this Contract, the design must assure that when flows are available in the Nuka Pool, 5 cfs will be diverted to the Nuka River prior to any diversion of water to the Upper Bradley River.

To accomplish this, flow from the Nuka Pool to the Upper Bradley River passes over a long, uniform weir constructed by modifying the naturally occurring rock weir at the pool outlet. At the Nuka River outlet of the pool, water is constrained to flow through a 12-inch steel pipe in a gabion dike. This pipe has been sized such that it will discharge 5 cfs when the Nuka Pool level is at the elevation of the Bradley-side weir crest and flow is about to commence to the Upper Bradley River. No flow is allowed to enter the Upper Bradley River from the Nuka Pool until 5 cfs enters the Nuka River. A second, identical pipe is also provided. This second pipe ensures flows if the first pipe becomes inoperative and needs to be repaired. It may also be used to augment flows.

2.8.3 East Fork Upper Battle Creek Diversion

The Upper Battle Creek Diversion is located at elevation 1342 approximately 0.7 miles south-southeast of Bradley Lake Dam and diverts a small tributary of Battle Creek into the reservoir adding 0.9 square miles of drainage area to the Project.

Diversion is accomplished by emplacement of a small, talus dike across the tributary at the base of a waterfall. An intake basin 25'x25' by 3 feet deep was constructed near the bottom of the falls and flow is directed through three interconnected ponds. Approximately 300 feet of ditch was excavated between the ponds to reverse the direction of the flow into the reservoir.

2.8.4 West Fork Upper Battle Creek Diversion

As of the Effective Date the West Fork Upper Battle Creek Diversion is under construction. When completed in 2020 water is expected to be diverted at a small concrete dam 16' tall and 60' wide into a 8' intake pipe that tapers to a 63" HDPE pipe. As designed the pipe conveys the water 9200' and discharges into a pool at the East Fork Upper Battle Creek. The diversion is located at elevation 1700 feet approximately 2 miles Southwest of the Bradley Lake dam. This should add a drainage area of 7.4 square miles to the Project. Diverted flows are expected to be restricted to no more than 600 cubic feet per second May 15 to October 31 with no diversion during the winter and spring months.

2.9 Permanent Facilities

To accommodate for the needs of on-site personnel, the project is provided with one 32'x82' duplex living quarters, one 32'x82' fourplex living quarters, a 43'x50' office/transient worker residence building, a 50'x160' shop-warehouse and a fenced storage yard which also contains an unheated storage/incinerator building. Also, under construction is an equipment storage building.

2.10 Project Airstrip

The project airstrip is incorporated into the permanent project road system between the barge dock and permanent facilities.

The strip is 2400 ft. long and 75 ft. wide and is equipped with runway lights, a taxi and parking apron, weather building and warning lights.

The airstrip is designed for VFR use only and is not open to the public.

2.11 Barge Dock

Water access to the project is from a dock facility consisting of five (5) 53 ft. diameter sheet pile cells placed out into the tidal flats of Kachemak Bay. A rockfill, gravel-surfaced causeway extending some 700 ft. from the shoreline connects the barge dock cells to the project access road at the bay shore. Use of this facility is available only during half tides and greater.

A small, aluminum floating dock is attached to the sheet pile cells to provide mooring for skiffs belonging to the public. This small dock is removed each winter to prevent it from being damaged by ice.

2.12 Transmission Line

Two parallel and separate single circuit 115 kV transmission lines, each about 20 miles long, connect to the substation at the powerhouse and carry the power generated to the Fritz Creek-Soldotna 115 kV Transmission Line owned by Homer Electric Association, Inc. The point of connection for these two lines is designated as the Bradley Junction.

The Bradley Lake transmission line towers are guyed, X-configuration towers manufactured of Corten type steel. The conductor is 556 kcmil, 42/19 Aluminum/Steel "Special Dove."

2.13 Roads

About 14 miles of gravel surface access roads have been constructed and connect the powerhouse, permanent facilities, airstrip, dam site and other project areas. Additional roads are being constructed to access the Battle Creek project.

2.14 Instrumentation

Settlement and deflection of the main dam are monitored by two rows of monuments set on the upstream face at approximately mid-height of the face and just below the parapet; and three monuments set in the rock fill along the upstream side of the El 1077 berm. Three monuments are set in the crest of the spillway. Instrument pedestals were established along these several lines of monuments. The instrument pedestals are referenced to four primary survey monuments set in rock.

Seepage into the spillway drainage gallery is collected and discharged over a vee notch weir.

Four exploratory borings along the line of the tunnel have been converted to open standpipe piezometers to measure groundwater levels above the tunnel.

Seepage flow from the drain system around the steel lining in the tunnel is monitored in the powerhouse.

3. INITIAL FILLING OF RESERVOIR.

Filling of the reservoir started October 30, 1990, but was suspended shortly thereafter to meet the fisheries minimum flow requirements. As the hydrograph began to rise the following spring, filling was resumed. The initial rate of filling was slow but accelerated during the summer of 1991. Water level reached full pool during a severe storm in late September 1991. Spilling started on September 27 and continued for 8 days with about 0.5 ft. depth passing over the spillway. The

winds during this storm were heavy. Waves splashed over the spillway and to some extend over the parapet wall of the dam. These caused no damage.

Measured deflections and settlements of the main dam during filling were very small, maximum displacements being:

crest settlement	0.02 ft.	
displacement	0.03	downstream
upstream face settlement	0.04	
displacement	0.02	downstream
downstream bench settlement		0.07
displacement	0.01	

The settlement and deflection of the crest are only about 0.03% of the dam height. There was no detectable seepage through the dam.

4. POWER HOUSE STARTUP

The units were turned over for pre-operational testing in March 1991. Unit 2 was first rotated on May 15, 1991, and Unit 1 on May 18, 1991. The units were released to Chugach Electric Association in Anchorage, Alaska for dispatch on August 1, 1991, and the plant declared in Commercial Operation on September 1, 1991.

5. PROJECT LANDS

On the basis of the project boundary shown in Exhibit G, the acreage of the lands belonging to the various landowners are tabulated below, as of October 2, 2018:

Asterisks (*) denote transmission line ROW acreage only.

Description, Township (TP)	State Area Acres	Other Acres	Subtotal Acres
T.3S., R.10W			
Section 27	8.63		
Section 28	44.75		
Section 29	45.07		
Section 30	42.27		
Section 34	41.47		
Section 35	50.01		
Section 36	34.98		
Total Per TP	267.17		
			267.17
T.3S., R.11W			
Section 21	11.6		
Section 22	42.43		
Section 23	25.97		
Section 25	42.23		
Section 26	20.79		

Description, Township (TP)	State Area Acres	Other Acres	Subtotal Acres
Section 28	32.02		
Section 29	42.42		
Total Per TP	217.45		
			217.45
T.4S., R.9W			
Section 6	39.08		
Section 7	23.98		
Section 8	29.88		
Section 17	42.80		
Section 19	13.56		
Section 20	29.36		
Section 30*	43.5	12.73	
Section 31*	4.7		
Total Per TP	226.85	12.73	
			239.58
T4S., R.10W			
Section 1	15.2		
Section 35	155.14		
Section 36	120.81		
Total Per TP	291.15		
			291.15
T.5S., R.8W			
Section 19	386.11		
Section 20	89.72		
Section 29	6.08		
Section 30	135.95		
Section 31	311		
Total Per TP	928.86		
			928.86
T.5S., R.9W			
Section 3	39.97		
Section 6	5.34		
Section 7	130.12		
Section 8	367.85		
Section 9	190.69		
Section 10	375.3		
Section 11	6.55		
Section 14	401.37		
Section 15	576.51		
Section 16	237.98		
Section 17	420.33		
Section 18	169.11		
Section 19	208		

Description, Township (TP)	State Area Acres	Other Acres	Subtotal Acres
Section 20	27.81		
Section 22	129.6		
Section 23	547.21		
Section 24	557.42		
Section 25	362.52		
Section 26	14.88		
Section 36	14.38		
Total Per TP	4782.93		
			4782.93
T.5S., R.10W			
Section 1	26		
Section 2	128.58		
Section 3	401.72		
Section 9	268.64		
Section 10	398.65		
Section 11	230.41		
Section 12	65.41		
Section 13	42.48		
Section 14	1.86		
Total Per TP	1,563.76		
			1,563.76
T.6S., R.8W			
Section 6	239.79		
Total Per TP	239.79		
			239.79
Total Project Area	**8517.96**	**12.73**	**8530.69**

Table A-1
Bradley Lake Hydroelectric Project Data

Dam:	Concrete-faced rockfill, 600 feet long, 125 feet high, 360,000 cubic yards rockfill, and 10,800 cubic yards concrete	Average Annual Energy:	380 gigawatt hrs
Spillway:	Ungated concrete ogee section, 175 feet long (11,000 cubic yards concrete)	Airstrip:	Gravel surface airstrip 2,400 ft. long by 75 feet wide incorporated into access road
Power Tunnel:	13-foot nominal diameter, fully concrete lined, approximately 19,152 feet in length	Transmission Line:	115 kilovolt, two
Diversion Tunnel:	21-foot horseshoe concrete lines/penstock tunnel, 407.5 feet long	Barge Dock:	Sheet pile cells granular fill
Penstock:	Steel, 9-foot diameter with 6 1/2 foot diameter branches	Access Roads:	10.8 miles, gravel
Middle Fork Diversion:	1517 foot diversion includes upper and lower channels with intake basin and stilling basin	Powerhouse:	Surface, steel superstructure, 160 feet long, 80 feet wide, 92 feet high
Nuka Diversion:	2 diversion and control dikes, pilot channel and outlet weir	Turbines:	2 each Pelton, vertical shaft, 90,170 horsepower max.
EFU Battle Creek Diversion:	300 foot diversion channel with intake basin, talus diversion weir	Generators:	2 each Rated output at max. operating pool is 60 MVA.
WFU Battle Creek Diversion:	60-foot long 16-foot tall concrete diversion into 63" nominal HDPE pipe to EFUBC diversion (under construction)	Governors:	2 each digital

EXHIBIT B

BRADLEY LAKE PROJECT SPECIFIC FEDERAL AND STATE AGENCY REQUIREMENTS

Corps of Engineers (COE)	Land Use License DACW85-3-91-88	COE land use license to construct and operate the upper Battle Creek Diversion Dam.
Corps of Engineers (COE)	Land Use License DACW85-2-90-24	Land use license for gauging station electrical distribution line.
Corps of Engineers (COE)	Dredge and Fill Permit #071-QYD-2-850502 Plus seven modifications	Section 10 - Perform work in or affecting U.S. navigable waters. Section 404 Discharge dredged or fill material into U.S. waters.
Corps of Engineers (COE)	Land Use License DACW85-3-86-55	Extension of land use license to allow for material extraction.
Corps of Engineers (COE)	Land Use License DACW85-3-86-73	Extension of land use license for area used as access road and construction landfill.
Corps of Engineers (COE)	Land Use License DACW85-3-86-101	Land use license to conduct studies and design project.
Dept. of Fish & Game (DFG)	Critical Habitat Area FG 88-11-0077	Road Construction Kachemak Bay Critical Habitat Area
Dept. of Fish & Game (DFG)	Special Area Permit FG 86-11-0824	Airstrip Construction and Operation
Dept. of Fish & Game (DFG)	Anadromous Fish Stream, Critical	Transmission Line Construction

	Habitat Area FG 86-11-0416 Plus Amendment IV	
Dept. of Fish & Game (DFG)	Critical Habitat Area FG 86-II-0115	Powerhouse to Lower Camp Access Road)
Dept. of Fish & Game (DFG)	Critical Habitat Area FG 86-II-01l4 Plus Amendment I	Airstrip to Powerhouse Access Road
Dept. of Fish & Game (DFG)	Anadromous Fish Stream Critical Habitat Area FG 86-II-0113 Plus two amendments	Martin River material site access road, Battle Creek.
Dept. of Fish & Game (DFG)	Critical Habitat Area FG 86-II-0112 Plus Amendment II	Spoil Disposal/Waterfowl Nesting Area
Dept. of Fish & Game (DFG)	Anadromous Fish Stream FG 86-II-0110 Plus Amendment II	Martin River material site, Martin
Dept. of Fish & Game (DFG)	Critical Habitat Area FG 86-11-0108	Barge dock and staging area.
Dept. of Fish & Game (DFG)	Critical Habitat Area FG 86-II-0107 Plus Amendment I	Powerhouse and switchyard construction and operation.
Dept. of Fish & Game (DFG)	Anadromous Fish Stream FG 86-II-0106 Plus Amendment II	Bradley River Dam, Bradley.
Dept. of Fish & Game (DFG)	Critical Habitat Area FG 85-II-0824 Plus one amendment	Airstrip construction and operation.
Dept. of Natural Resources(DNR)	Water Rights LAS 13370	Water rights for Upper Battle Creek Diversion Project.

Dept. of Natural Resources(DNR)	Permanent Water Rights LAS 6998	Permit to use permanent facilities Well No. 4 for 5 additional years.
Dept. of Natural Resources(DNR)	Water Rights Application LAS 14316	Bradley Lake Waterfowl Nesting Area
Dept. of Natural Resources(DNR)	Permanent Water Rights LAS 2837	Appropriate water for waterfowl nesting area.
Dept. of Natural Resources(DNR)	Permit to Appropriate Water LAS 27720	WFUBC water expiration date Feb 6, 2027.
Dept. of Natural Resources(DNR)	Public and Charitable Lease ADL 225142	Lease of State Lands near Fritz Creek for Moose Mitigation.
Dept. of Natural Resources(DNR)	Permanent Water Rights LAS 2836	Appropriate water from Middle Fork and Nuka Glacier Pool
Dept. of Natural Resources(DNR)	Right -of- Way ADL 223192	Final documents issued
Dept. of Natural Resources(DNR)	Uplands Lease ADL 222656	Final documents issued.
Dept. of Natural Resources(DNR)	Tidelands Lease	Final documents issued.
Dept. of Natural Resources(DNR)	Entry Authorization	Entry and use onto State land for construction of WFUBC. End Aug 24, 2022. Need final survey
Dept. of Interior (DOI)	Contract	Provisions for water from Nuka Glacier Pool.
Federal Energy Regulatory Commission (FERC)	FERC License Amendment	To construct and operate East Fork Upper Battle Creek Diversion Project.
Federal Energy Regulatory Commission (FERC)	FERC License Amendment	To adopt modified flow regime during reservoir filling.

Federal Energy Regulatory Commission (FERC)	FERC License Amendment	For relocation of permanent landing strip
Federal Energy Regulatory Commission (FERC)	FERC License Amendment	To adopt modified operational flow regime to be consistent with ADF&G flow regime.
Federal Energy Regulatory Commission (FERC)	FERC License	FERC order issuing license
Federal Energy Regulatory Commission (FERC)	FERC License Amendment	Order granting extension until January 1, 1992 to complete project construction
Federal Energy Regulatory Commission (FERC)	FERC License Amendment	To construct and operate West Fork Upper Battle Creek Diversion Project.
Federal Energy Regulatory Commission (FERC)	FERC License Amendment	Order approving five year extension of Minimum flow trial period until Sept 14, 2020
Federal Energy Regulatory Commission (FERC)	FERC License Amendment	Order amending license and revision to annual charges reflecting transfer of Federal project lands to State

EXHIBIT C
TO
O&M AGREEMENT

COMPENSATION

C1. Payments will be made on approved invoices submitted for months during which costs are incurred. Except for fixed price(s) and fixed fees, compensation shall be cost-based on actual costs to the Operator for providing services. Provisions for Audit are contained in Section 6 of the Agreement.

C2. Payments shall be calculated in accordance with this Exhibit C. Payments are limited to amount(s) approved and included in the annual Bradley O&M budget, Emergency Expenditures, and pre-approved Extraordinary Costs as described and defined in the Agreement. The Operator expressly has no right to any payment in excess of these amounts absent approval from the Authority and the BPMC through an amended budget.

C3. Payments shall be made to the Operator consistent with Section 10 of the Agreement.

C4. There are four categories of compensation payable to Operator for the services provided under this Agreement: (1) Direct Costs of Direct Labor; (2) Indirect Costs; (3) Third-Party Director Costs; and (4) Other Pre-Approved Operator Labor. The following terminology and explanations are applicable to this Exhibit C; any inconsistencies appearing in this Exhibit shall be resolved in accordance with the terminology in Section 1 of the Agreement.

C4.1. Direct Costs of Direct Labor - Base salary and/or wages, exclusive of Fringe Benefits or other Indirect Costs and Fees. Base salary and/or wages for those employees (maintenance, operation, facility training, and supervision) assigned by the Operator to the Bradley Project shall be fixed at the rate specified in Exhibit C-1 for the duration of the Agreement.

C4.2. Indirect Costs - Allowable expenses that, because of their incurrence for common or joint cost objectives, are to be allocated to this Agreement using a specified Indirect Cost Rate of 155 percent calculated on the straight time hourly rate for any Direct Costs of Direct Labor. The Indirect Cost Rate of 155 percent is fixed for the duration of the Agreement.

C4.2.1. Indirect Costs include, but are not limited to, the following categories: Fringe Benefits, Overhead (General & Administrative Expenses - including Indirect Labor), and Allocated Home Office Overhead (if applicable).

C4.2.1.a. Fringe Benefits - Costs for items such as:

- Vacation time, holidays and authorized leave;
- Group and Worker's Compensation Insurance;
- Deferred Compensation/Retirement plans;
- Social Security and Unemployment Taxes; and
- Group Medical plan and Life Insurance Premiums.

C4.2.1.b. Overhead - Costs for items such as the following, if they are not included in Direct Costs:

- Indirect Labor (Supervisory, Administrative, etc., base salary or wages)
- Recruiting expenses, travel, food and lodging;
- Rent, heat, power, light and janitorial services;
- Office supplies, reproduction costs, communications;
- Upkeep and depreciation of equipment and computers;
- Rentals of equipment and computers; and,
- Business Insurance premiums not billed to clients.

C4.2.1.c. Allocated Home Office Overhead (if applicable) -
Costs for management, supervisory, and administrative functions which benefit separate unit operations.

C4.3. Third-Party Direct Costs ("Expenses") – Pre-approved unit priced items, actual costs for specific subcontracts approved in accordance with this Agreement, and actual costs for the following:

- Transportation (economy rate/air-coach);
- Food and lodging (Generally, not to exceed agency per diem rates);
- Incidental travel expenses; and,

If not recovered in the Indirect Cost Rate – the following:

- Equipment & computer use at *pre-approved* rates;
- Specific materials and supplies; and, Other *pre-approved* direct expenses.

Each Expense is limited to reasonable costs which do not exceed that which would be incurred by an ordinarily prudent person in the conduct of competent business.

C4.4. Other Pre-Approved Operator Labor. Any Operator Direct Labor for Job Classifications not identified in Exhibit C-1. All such labor must be pre-approved by the Authority and the BPMC and the payment for such labor shall be limited to the Direct Costs of Direct Labor plus Fringe Benefits for such employee. The Indirect Cost Rate does not apply to Other Pre-Approved Operator Labor, and no such markup shall be paid to the Operator for this type of service.

C5. Non-allowable Costs - Payments for the following items and certain other costs defined in 48 CFR Part 31and related regulations are not allowable. Such costs shall not be included as billable Direct or Indirect Costs or in the calculation of the Indirect Cost Rate. The non-allowable costs include:

- Interest and other financial costs;
- Contributions and donations;
- Federal income taxes & tax return preparation fees;
- Deferred state income taxes;
- Bad debts;
- Fines and penalties;
- Entertainment, social club memberships, etc.;
- Goodwill;
- Provisions for contingencies;
- Losses on other contracts and related legal fees;
- Operator fees, profits, and/or markups.
- Legal fees, etc., related to contract claims; and,
- Costs not approved by the Regulatory Commission of Alaska for recovery in rates.

C6. Markup of any costs as compensation for administration, management or handling, etc., is prohibited. Costs of such efforts are included within the elements of Direct Labor and/or Indirect Labor. Compensation for any

risk associated with incurring costs is included within Indirect Cost Rate.

EXHIBIT C-1, CALCULATION(S) OF PAYMENT

1. Payments will be made in accordance with the O&M Agreement and the applicable discussions of Calculation(s) of Payment presented below. Payments are limited to amount(s) approved and included in the annual Bradley O&M budget, Emergency Expenditures, and pre-approved Extraordinary Costs as described and defined in the Agreement. The Operator expressly has no right to any payment in excess of these amounts absent approval from the Authority and the BPMC through an amended budget.

2. Payments for *Direct Cost of Direct Labor* will be based on the number of hours expended by each job classification multiplied by the applicable Direct Labor Rate. Job Classifications and Direct Hourly Rates are fixed for the duration of this Agreement. An estimate of Labor Hours by Job Classification shall be included by the Operator in the draft annual O&M budget submitted to the BPMC. Work shall be performed by the lowest paid qualified personnel. Further, individuals will charge time at rates equivalent to skill levels commensurate with the work they perform. The following Direct Hourly Rates shall be fixed as listed below for the duration of this Agreement. Rates may be renegotiated for successive terms:

FUNCTION	STRAIGHT TIME ($/hr.)	OVERTIME ($/hr.)	DOUBLE TIME ($/hr.)
Maintenance	$ 56.40	$ 84.60	$112.80
Operation	$ 63.17	$ 94.76	$126.34
Operator Trainee	$ 47.61	$ 71.42	$ 95.22
Supervision	$ 104.31	$ 104.31	$104.31

3. Payments for *Indirect Costs* shall be based upon the number of hours of Direct Labor at the applicable Straight Time Rate multiplied by the *Indirect Cost Rate (IDCR)* of 155 percent.

3.1 The IDCR is fixed for the initial five and half (5.5) year duration of this Agreement and may be renegotiated for successive terms.

3.2 Revisions to the IDCR may be implemented only by an amendment to this Agreement. Further, adjustment of any payments made based on provisional IDCRs will not be done without a contract Amendment that fully explains the amount of the adjustments.

4. Payments for *Third-Party Direct Costs* (Expenses) will be made for actual substantiated costs which are directly chargeable to and necessary for performance of services assuming they are not recovered through the Indirect Cost Rate. "Markup" on any Third-Party Direct Costs are prohibited (reference paragraph C8).

5. Other Pre-Approved Operator Labor. Any Operator Direct Labor for Job Classifications not identified in Exhibit C-1. All such labor must be pre-approved by the Authority and the BPMC and the payment for such labor shall be limited as described in Section C.4.4. of this Exhibit.