

# Appendix A

Site References  
Legal Description

**To be completed upon site selection**

Appendix B

Scope of Supply  
And  
Technical Specifications



# Appendix C

## Project Schedule

**Seller to Supply**

## APPENDIX D

### Seller Submittals

## APPENDIX D

### Seller Submittals

Seller shall submit to Buyer drawings, plans, specifications, and other documents necessary to document the design engineering and construction of the Plant and the content of the Work, including but not limited to those items herein listed below. Additionally, Seller shall submit to the Buyer those drawings, plans, specifications, and other documents as required by the State of Utah or any other regulatory body or agency having authority over the Plant.

Ninety (90) days after the Notice To Proceed, the Seller shall provide to Buyer a schedule for submittal of such documents, which schedule shall (1) be consistent with the schedule for the Project and (2) provide Buyer with the greatest practicable opportunity to review such documents and make comments thereon within fourteen (14) days from the transmittal date or as mutually agreed upon provided that the comment period does not unduly affect the progress of the Work. Submittals shall be in duplicate.

#### **Engineering Lists**

- Equipment List
- Electrical Load List
- Master Drawing List
- Pipeline List
- Instrument List
- Recommended Spare Parts List

#### **Engineering Specifications and Drawings**

- Piping & Instrumentation Diagrams
- Plot/Site Plan
- Site Drainage Plans and Drawings
- Underground Utilities Drawings
- Fencing and Grounding Drawings
- Plant Communication System Drawings
- Security System Drawings
- Single Line Diagrams
- Three Line Diagrams
- Metering and Protection
- Switchyard Single Line, Three Line and Metering and Protection Design
- Fire Protection Scope/Overview
- Site Grading Plans

- Equipment Specifications for HRSGs, Condenser, Generator Step-Up and Auxiliary Transformers, Medium Voltage, 16 kV, HV Switchgear, Cooling Tower, Boiler Feed Pumps, Condensate Pumps, Water Treatment Equipment, Continuous Emissions Monitoring System and Circulating Water Pumps
- Plant Lighting Plans and Drawings

**Construction**

- Site Utilization Plan, including laydown,

**Commissioning and Startup**

- System Descriptions
- Commissioning Turn over Packages (M)
- Performance and Emissions Test Procedures
- Performance Test Results (M)
- Reports Required for Regulatory Compliance
- Review and comment on Buyer/Buyer's detailed operation and maintenance procedures.

**Plans, Manuals, & Reports**

- Design/Fabrication Quality Assurance Manual
- Witness Point Schedule (Appendix T of the APSA)
- Construction Quality Assurance Manual
- Major Equipment Inspection Plan
- Safety Manual
- Training Manuals
- Product Manuals
- Drug Testing Program
- Level 2 Schedule
- Commissioning Schedule
- Monthly Progress Reports

All specifications and drawings for the Project and submitted by Seller or Subcontractor to Seller hereunder shall include the following data:

Name:	PacifiCorp
Project Name:	Buyer's Power Plant
Spec. or drawing number, if applicable:	Seller or Subcontractor to Provide
Seller or Subcontractor's name:	Seller or Subcontractor
Revision Number and Date	Seller or Subcontractor to Provide

Buyer shall have the right to reasonably request other information and Seller shall use reasonable efforts to supply this information.



Documents submitted to Buyer are provided for information only. However, if Buyer identifies discrepancies or areas of non-conformance with the Agreement requirements, Buyer has the right to notify Seller of the discrepancy/non-conformance and require that the document be revised and resubmitted.

Except for those documents indicated with the notation "(M)" which shall be provided in hard copy format, Seller shall provide to Buyer electronic copies of the final revision (i.e. the last revision issued in the course of implementing the Work) of all engineering record drawings and specifications prepared by Seller or Subcontractors for this Project. Final Revision of balance of plant drawings will be provided in "executable" electronic format to the extent obtainable from the subcontractor. Seller will take commercially reasonable steps to obtain these "executable" electronic files at no cost to the Buyer, otherwise a proposal will be provided to Buyer within 90 days of Final Acceptance indicating the cost to provide. For the purposes of this Section, "record drawings and specifications" shall mean Engineering Lists, Engineering Specifications and Drawings, and Commissioning and Startup documents described in this appendix. In addition Seller shall reflect "as built" conditions to the below listed documents and provide to Buyer prior to Final Acceptance.

- Foundation Location Plans
- Building architectural drawings
- Underground utility drawings (includes underground piping)
- General arrangements and elevations
- Plot plans, site drainage, Municipal tie in points
- P&IDs
- Electrical single line drawings
- Electrical/I & C termination diagrams
- Function/control logic diagrams

#### Monthly Progress Report

A monthly meeting shall be held with the Buyer to review the Sellers Progress Report. The Monthly Progress Report shall address all aspects of the Plant through the Substantial Completion and shall include, but not be limited to the following:

- (a) An "Executive Summary" containing:
- A written summary of events and progress accomplished during the previous reporting period.

- Unresolved Changes.
  - Critical Concerns and Intended Actions.
- (b) An "Engineering Section" containing:
- A summary of activities, tasks and work completed during the reporting period.
  - A summary of Work activities planned for completion during the next reporting period.
  - A summary of Work activities in-progress, not completed in the current reporting period or planned to be completed in the next reporting period, with specific accomplishments, associated with these activities.
  - The progress report, from month to month, shall have continuity.
  - A summary of critical concerns and intended actions to resolve them.
- (c) An "Equipment and Material Procurement" section containing:
- Summary of major Procurement Activities in Progress.
  - Expediting Status.
  - Upcoming Equipment Witness Points
- (d) A "Construction Section" containing:
- A summary of activities, tasks and Work completed during the reporting period.
  - A summary of Work activities planned for completion during the next reporting period
  - A summary of Work activities in-progress, not completed in the current reporting period, as well as specific accomplishments associated with these activities.
  - Continuing activities shown shall be consistently reported through completion.
  - The progress report, from month to month, shall have continuity.
  - A summary of critical concerns and intended actions to resolve them, including planned action dates.
  - "S" curves indicating progress of key construction activities
- (e) A "Schedule Section":
- Will be updated on a monthly basis and will consider the aforementioned item b, c and d. An updated Level 2-time schedule will be provided (paper/electronic). Critical path analysis will also be provided.
- (f) A "Payment status Section"
- (g) A list and status of open items between Buyer and Seller including correspondence
- (h) Status of Seller Required Submittals
- (i) A listing of all Change Orders with pending/approved status
- (j) Monthly Safety Statistics for Sellers and Subcontractor activities

- (k) A list of the status of Seller permits
- (l) Sales Tax Expenditures Summary

## Appendix E

### Governmental Approvals

[Sample – to be replaced with site-specific approvals]

**SCHEDULE OF PERMITS AND GOVERNMENTAL APPROVALS:  
APPROVALS, CERTIFICATES, PERMITS AND LICENSES - SAMPLE**

**POWER PLANT**

AGENCY	PERMIT/CITATION/APPROVAL	REASON REQUIRED	PERMIT IN NAME OF	PREPARE	OBTAIN	FEE PAYMENT
<b>Federal</b>						
US Army Corps of Engineers (USACE)	Nationwide Permits as required	Filling of wetlands, discharge to Utah Lake	Seller	S	S	S
US Army Corps of Engineers (USACE)	Streambed Alteration Permit	Altering of stream beds associated with waters of the US. Joint permit with State for installation of a discharge pipe in Lindon Hollow Creek	Seller	S	S	S
Federal Energy Regulatory Commission (FERC)	Public Utilities Regulatory Policies Act/IPP Review	To obtain benefits as a qualifying cogeneration facility as an independent power plant.	NA	NA	NA	NA
Federal Aviation Administration (FAA)	Notice of Proposed Construction or Alteration	Stack height which may affect navigable air space. (If Required)	Seller	S	S	S
National Park Service	Class I/II NAAQS Visibility Analysis	Demonstrate no impact to the air quality	Seller	S	S	S
US Fish and Wildlife Services (USFWS)	Threatened & Endangered Species Act Compliance Acknowledgment	Demonstrate no impact.	Seller	S	S	S
US Environmental Protection Agency- USEPA (Operations)	SPCC Plan	Spill Prevention Control and Countermeasure Plan	Buyer	B	B	B
EIA	Power Plant Registration ORIS Code	Registration of facility (Seller provides input, Buyer prepares)	Buyer	S/B	S	S
DOT (Construction)	Equipment and Materials Handling, Including Materials Disposal	Highway transportation for materials and equipment.	Contractor	C	C	C
DOT (Operation)	Equipment and Materials Handling, Including Materials Disposal	Highway transportation for materials and equipment.	Buyer	B	B	B

B = Buyer

S = Seller

C = Contractor

X/Y = X primary responsibility and Y to provide reasonable efforts to support X.

\* Seller prepares all of its supporting documentations for the Work on behalf of Buyer.

**SCHEDULE OF PERMITS AND GOVERNMENTAL APPROVALS:  
APPROVALS, CERTIFICATES, PERMITS AND LICENSES - SAMPLE**

**POWER PLANT**

AGENCY	PERMIT/CITATION/APPROVAL	REASON REQUIRED	PERMIT IN NAME OF	PREPARE	OBTAIN	FEE PAYMENT
<b>State</b>						
Utah Public Utilities Commission	Certificate of Convenience and Necessity	Establish the need for the resources	Buyer	B	B	B
DWQ	Flood Hazard Area/Stream Encroachment Permit	Development within a flood hazard area as designated by state.	Seller	S	S	S
DWQ	Permit to pump ground water	Concurrence by State regarding the transfer of water rights from Geneva and the assignment of these rights to deep well pumping using existing or new wells.	Seller	S	S	S
DWQ	State Pollutant Discharge Elimination System Permit (UPDES)	Wastewater discharge approval to a water body and for facility and stormwater discharges associated with industrial activity.	Seller	S	S	S
DWQ	Streambed Alteration Permit	Permit for installing a discharge pipe in the streambed – joint permit with ACOE. Administered by State	Seller	S	S	S
DWQ	Well Drilling Permit	Required for any well or boring including monitoring wells.	Seller	S	S	S
DAQ	Utah DAQ PSD Non-Applicability Review Permit	Approval to emit air pollutants under state and PSD permit.	Seller	S	S	S
DAQ	Utah DAQ Title V Permit	Operating Permit	Buyer	B	B	B
DAQ	DAQ AIRS Emission ID	Seller to provide input, Buyer to prepare	Buyer	S/B	B	B
DAQ, DEQ	Utah Hazardous Waste Disposal	Obtain an ID number for Site	Seller	S	S	S
DAQ	Utah DAQ/Emergency Episode Plan	Release of Hazardous Chemicals – includes RMP/PSM. Seller to provide input to preparation of risk management/Process Safety Management plans	Buyer	B	B	B
SERC	Hazardous Matter Inventory	Seller to provide input, Buyer to prepare	Buyer	S/B	B	B
DWQ	Utah DWQ Construction SWPP	Storm Water Plan to support construction	Seller	C/S	C	S
DWQ	Utah DWQ Operational SWPP	Storm Water Plan to support operations	Buyer	B/C	B	B

B = Buyer

S = Seller

C = Contractor

X/Y = X primary responsibility and Y to provide reasonable efforts to support X.

\* Seller prepares all of its supporting documentations for the Work on behalf of Buyer.

**SCHEDULE OF PERMITS AND GOVERNMENTAL APPROVALS:  
APPROVALS, CERTIFICATES, PERMITS AND LICENSES - SAMPLE**

**POWER PLANT**

AGENCY	PERMIT/CITATION/APPROVAL	REASON REQUIRED	PERMIT IN NAME OF	PREPARE	OBTAIN	FEE PAYMENT
<b>State (Cont.)</b>						
DWQ	Utah DWQ Groundwater Monitoring Plan	During Construction (Contractor prepare, Seller & Buyer provide input)	Seller	S/B/C	S	S
DWQ	Utah DWQ Groundwater Monitoring Plan	During Operation (Buyer Prepare/Seller provide input)	Buyer	S/B	B	B
DEQ (Construction)	Solid, Hazardous and Industrial Waste Stream	Establish the methods and means for storage, transportation, and disposal of solid, hazardous and industrial waste streams. SC = Subcontractor	Contractor/ Subcontractor	C & SC	C & SC	C & SC
DOT/OTHER (Construction)	Equipment and Materials Handling, Including Materials Disposal	Highway/road transportation, rail and river.	Contractor	C	C	C
DEP, DER	Variance for Noise During Construction	Construction noise not in compliance with code.	Seller	S	S	S
DEP, DER	Excavation Materials Disposal	Governmental Approval to dispose of excavated materials if in accordance with Contractor's Phase II Environmental Study – Appendix N.	Seller	C	S	C
DEP, DER (Construction)	Excavation Materials Disposal	Governmental Approval to dispose of excavated materials if (i) Not in accordance with Contractor's Phase II Environmental Study – Appendix N (ii) Affected by Geneva Steel Permit.	Seller	S/C	S	B
DEP, DER, WMD	Permit to Divert Surface or Subsurface Water		Seller	S	S	S
UDNR	Endangered Species Studies	Document Findings as part of Phase I Environmental	Seller	S	S	S
Historical Society (USHPO)	Confirmation of no Artifacts or Sites of Archaeological, Cultural or Historic Significance	Confirmation of no interference for construction.	Seller	S	S	S

B = Buyer

S = Seller

C = Contractor

X/Y = X primary responsibility and Y to provide reasonable efforts to support X.

\* Seller prepares all of its supporting documentations for the Work on behalf of Buyer.

**SCHEDULE OF PERMITS AND GOVERNMENTAL APPROVALS:  
APPROVALS, CERTIFICATES, PERMITS AND LICENSES - SAMPLE**

**POWER PLANT**

AGENCY	PERMIT/CITATION/APPROVAL	REASON REQUIRED	PERMIT IN NAME OF	PREPARE	OBTAIN	FEE PAYMENT
<b>State (Cont.)</b>						
Utah Labor Commission, Division of Safety	Certificate of Inspection	Need State signoff on completed HRSG & Auxiliary Boiler	Seller	C	C	C
Utah Labor Commission, Division of Safety	Permit to Operate Boilers	Need State signoff on completed HRSG & Auxiliary Boiler	Buyer	B/C	B	B
Utah Division of Occupational and Professional Licensing	Contractor License	Required to construct Lake Side Power Plant	Contractor	C	C	C
EPA/Utah Dept. of Public Safety/DEQ/Division of Environmental Response and Remediation/SERC/LERC	During Construction - Emergency Planning and Community Right to Know (MSDS, Emergency chemicals Inventory Form/Facility Emergency Response Plan)	Required for On-Site storage of chemicals, fuels, lubricants, etc. used during construction	Contractor	C	C	C
EPA/Utah Dept. of Public Safety/DEQ/Division of Environmental Response and Remediation/SERC/LERC	During Operation - Emergency Planning and Community Right to Know (MSDS, Emergency chemicals Inventory Form/Facility Emergency Response Plan)	Required for On-Site storage of chemicals, fuels, lubricants, etc. used during Operation	Buyer	B	B	B

B = Buyer

S = Seller

C = Contractor

X/Y = X primary responsibility and Y to provide reasonable efforts to support X.

\* Seller prepares all of its supporting documentations for the Work on behalf of Buyer.



**SCHEDULE OF PERMITS AND GOVERNMENTAL APPROVALS:  
APPROVALS, CERTIFICATES, PERMITS AND LICENSES - SAMPLE**

**POWER PLANT**

AGENCY	PERMIT/CITATION/APPROVAL	REASON REQUIRED	PERMIT IN NAME OF	PREPARE	OBTAIN	FEE PAYMENT
<b>Local/County</b>						
Local/County	Planning Board Plan of Development Approval	Review of Site Plan, Architectural Plans, Landscaping, access, Fire Protection, etc.	Seller	S	S	S
Town of Lindon	Sewer Extension Permit	Build, modify or extend sewer line.	Buyer	S	S	S
Town of Lindon	Potable Water Extension Permit	Build, modify or extend potable water line (if Required).	Buyer	S	S	S
Local/County	Soil Erosion & Sedimentation Control Plan Review	Plan required for projects that surface area of land.	Seller	S	S	S
Local/County	Provo County/Vineyard Conditional Use Permit	(If Required) Town of Vineyard indicates no further work – Industrial Zones	Seller	S	S	S
Local/County (Operation)	Preliminary and Final SPCC Plan	Plan for stored chemicals, ammonia oil, etc.	Buyer	B	B	B
Town of Vineyard	Variance for Noise During Construction	Construction noise not in compliance with Local Ordinances (if required).	Seller	S	S	S
Town of Vineyard	During Construction - Emergency Planning and Community Right to Know (MSDS, Emergency chemicals Inventory Form/Facility Emergency Response Plan)	Required for On-Site storage of chemicals, fuels, lubricants, etc. used during construction	Contractor	C	C	C
Town of Vineyard	During Operation - Emergency Planning and Community Right to Know (MSDS, Emergency chemicals Inventory Form/Facility Emergency Response Plan)	Required for On-Site storage of chemicals, fuels, lubricants, etc. used during Operation	Buyer	B	B	B
Local/County	Railroad Crossing Approvals	Access roads, underground/overhead piping, spurs, transmission lines.	Seller	C	C	C
Utility Company	Construction Water	Water supply during construction	Contractor	S	S	S

B = Buyer

S = Seller

C = Contractor

X/Y = X primary responsibility and Y to provide reasonable efforts to support X.

\* Seller prepares all of its supporting documentations for the Work on behalf of Buyer.

**SCHEDULE OF PERMITS AND GOVERNMENTAL APPROVALS:  
APPROVALS, CERTIFICATES, PERMITS AND LICENSES - SAMPLE**

**POWER PLANT**

AGENCY	PERMIT/CITATION/APPROVAL	REASON REQUIRED	PERMIT IN NAME OF	PREPARE	OBTAIN	FEE PAYMENT
<b>Local/County (cont.)</b>						
Utility Company	Construction Electricity	Power supply during construction. Onsite =C Offsite =S	Contractor	S	S	S
Utility Company	Construction Telephone	Telephone service during construction.	Contractor	C	C	C
Building Department	Construction/Building Permit	Authorization to construct.	Seller	C	C	S
Fire Dept & Police Dept (Construction)	Construction Security and Safety Procedures and Equipment	Approval of site procedures. (If Required)	Contractor	C	C	C
Police Dept & Traffic Department	Construction Equipment and Materials Handling, Including Materials Disposal	Street transportation and delivery for Contractor supplied equipment. – Heavy Hauls	Contractor	C	C	C
Police Dept & Traffic Department	Construction Personnel Parking and Transportation	Traffic management.	Contractor	C	C	C
Fire Dept and Emergency Management Dept	Approval for On-site Storage of Chemicals, Fuels, Lubricants, etc. used during construction	Approval to allow storage and usage.	Contractor	C	C	C
Building Department	Certificate of Occupancy	Occupancy of structures.	Seller	C/S	C/S	S
Building Department	Soil Erosion & Sedimentation Control Plan (for construction only activities)	Soil Erosion and Sedimentation Control Plan during construction.	Contractor	C	C	S
County Traffic Dept & Local Police Dept & Fire Dept	Construction Access Roads and Permanent Access Roads and/or Driveways	Site access.	Seller	S	S	S
Police Dept & Fire Dept	Permits for Signs and Fencing – Construction	Authorization to erect.	Seller	C	C	C

B = Buyer

S = Seller

C = Contractor

X/Y = X primary responsibility and Y to provide reasonable efforts to support X.

\* Seller prepares all of its supporting documentations for the Work on behalf of Buyer.

**SCHEDULE OF PERMITS AND GOVERNMENTAL APPROVALS:  
APPROVALS, CERTIFICATES, PERMITS AND LICENSES - SAMPLE**

**POWER PLANT**

AGENCY	PERMIT/CITATION/APPROVAL	REASON REQUIRED	PERMIT IN NAME OF	PREPARE	OBTAIN	FEE PAYMENT
<b>Miscellaneous</b>						
As Required **	Natural Gas Pipeline Permits	Includes ROWs, Easements, local, state and federal permits associated with construction and operation of a gas pipeline from either Questar or Kern Pipelines.	Seller	S	S	S
Kern/Questar/BPA **	Interconnection Agreement for gas Transportation Services	Interconnection with Kern or Questar or contract for services with BPA	Seller	S	S	S
PacifiCorp Transmission	Interconnection Study & Facilities Agreement	Interconnection of the Project to the transmission system. Seller pays for study fees.	Seller	S	S	S
PacifiCorp Transmission	Network Service Agreement	Buyer enters into Network Agreement with PacifiCorp Transmission to interconnect the generation into the PacifiCorp System	Buyer	B	B	B
As Required	Plant Policies and Procedures	Various policies and procedures which govern the operation and maintenance of the Plant. Some of these documents may be auditable by local or state agencies	Buyer	B	B	B

\*\* Seller to provide permits and scope indicated above in the event Buyer and Seller enter into a Change Order in accordance with Section 7.2 (a) of the Agreement

B = Buyer

S = Seller

C = Contractor

X/Y = X primary responsibility and Y to provide reasonable efforts to support X.

\* Seller prepares all of its supporting documentations for the Work on behalf of Buyer.

**Appendix F:**  
**Glossary of Terms**  
**(Asset Purchase and Sale Agreement)**

“Additional Project Documents” means any contract, agreement, letter of intent, understanding, or instrument related to the ownership, construction, testing, maintenance, repair, operation, financing or use of the Project entered into by the Seller and any other Person subsequent to the Effective Date and prior to the Closing Date; provided, however, that such contract or agreement shall not constitute an Additional Project Document if it (i) is entered into by the Seller in the ordinary course of business in connection with the procurement of goods or the performance of services related to the Work and (ii) can be readily replaced by other contracts or agreements having substantially similar terms and conditions.

“Affiliate” means with respect to any Person, any other Person who, directly or indirectly, Controls such first Person or is Controlled by said Person or is under common Control with said Person.

“Agreement” shall have the meaning set forth in the preamble hereof.

“Approval Order” shall mean the approval order, if any, to be issued by [UDAQ] to Seller in connection with the Project. “

“Applicable Law” means all applicable laws (including applicable Environmental Laws), statutes, codes, acts, ordinances, orders, judgments, decrees, injunctions, rules, regulations, permits, licenses, authorizations, directions and requirements of any Governmental Authority having the force and effect of law, and as to any Person, the certificate of incorporation and bylaws or other organizational or governing documents of such Person.

“Approved/Preferred Suppliers” shall mean suppliers identified in Appendix Q attached hereto.

“ASME” means American Society of Mechanical Engineers.

“Assignment and Security Agreement” means the Assignment and Security Agreement, to be entered into by and between the Buyer and the Seller.

“Authorized Officer” means for the Seller, any [SPECIFY TITLES]. No Person shall be deemed to be an Authorized Officer unless named on a certificate of incumbency of such Person delivered to the Buyer as set forth in this Agreement.

“Bankruptcy Code” means the United States Bankruptcy Code, as in effect from time to time.

“Base Reference Conditions” means those conditions set forth in Appendix H.

“Business Day” means any day other than a Saturday, Sunday or other day on which banks are authorized or required to be closed in Salt Lake City, Utah.

“Buyer” shall have the meaning set forth in the preamble hereof, and includes any of the Buyer’s successors and permitted assigns.

“Buyer Governmental Approvals” shall have the meaning set forth in Section 4.5 (“Governmental Approvals and Consents”).

“Buyer-Initiated Change” shall have the meaning set forth in Section 13.2(b).

“Buyer Senior Procurement Representative” shall mean the designated representative from Buyer’s Procurement and Materials Planning Department responsible for the Project.

“Buyer’s Default” shall have the meaning set forth in Section 29.2 (“Buyer’s Default”).

“Buyer’s Drawings” or means all the drawings and information provided by the Buyer to the Seller under this Agreement or in connection with any Request for Proposals issued by Buyer in anticipation of this Agreement, other than any drawings and information provided by or through PacifiCorp Transmission.

“Buyer’s Representative” means the natural person designated as such by the Buyer pursuant to Section 8.5 (“Buyer’s Representative”).

“Cash Escrow” means an escrow account established by Seller in a commercial bank or trust company organized under the laws of the United States of America or a political subdivision thereof, whose long-term senior unsecured debt is rated at least “A” by S&P and “A2” by Moody’s, and with assets (net of reserves) of at least \$10,000,000,000. Cash deposited to the escrow account shall earn interest at the rate applicable to money market deposits at the banking institution from time to time, and the interest shall be retained in the escrow account as additional security for Seller’s performance under this Agreement.

“CCN” means a Certificate of Convenience and Necessity issued by the [PSCU] relating to the Project that is acceptable to the Buyer in its sole discretion.

“Certificate of Compliance” [To Come]

“Change” means any alteration of the Work whether by way of addition, deletion, modification, substitution or omission as instructed by the Buyer but shall not include any instruction to the extent that such instruction is issued as a result of any breach by the Seller of this Agreement or otherwise to require the Seller to fulfill its obligations under this Agreement. Changes shall include but not be limited to changes to Scope of Work, Project Schedule, Payment Schedule, total price, changes total cost of ownership, performance, efficiency, reliability and any Specification or Work as defined in this Agreement. Re-performance of any Work required to rectify or recover Work that is necessary due to the Seller’s (or its Contractor’s or any Subcontractor’s) negligence or breach of this Agreement shall not constitute a Change.

“Change Order” means any order identified as a “Change Order” and issued to the Seller by the Buyer pursuant to Article 13 and Appendix J, substantially in the form set forth in Exhibit D.

“Change Order Notice” [To Come]

“Change Order Request” [To Come]

“Claim” means any indemnity, demand, demand letter, claim, cause of action, notice of noncompliance or violation, or other proceeding relating to the Project.

“Clean Water Act” shall mean the Federal Water Pollution Control Act, 33 U.S.C. §§1531 et seq., as amended, and the Utah Water Quality Act, Utah Code 19-5-101 et seq.

“Closing” shall mean the Closing identified in Section 2.3 (“Closing”).

“Closing Date” shall mean the Closing Date identified in Section 2.3 (“Closing”).

“Collateral” means all property and interests in property (including the Site and intangible property) now owned or hereafter acquired by the Seller prior to the Closing Date, including any property or interest in or upon which a Lien has been or is purported or intended to have been granted to the Buyer under any of the Security Documents.

“Computer Program” means a sequence of instructions, data, or equations in any form, and explanations thereof, intended to cause a computer, a control data processor or the like to perform any kind of operations. Computer Programs may at times be referred to herein generally as software or firmware.

“Computer Program License” means the license to use certain Computer Programs as contemplated by Section 7.13 (“Intellectual Property Rights and Computer Program Licenses”).

“Condemnation Proceeding” shall have the meaning set forth in Section 7.31 (“Condemnation, Eminent Domain, Casualty Events”).

“Confidential Information” shall have the meaning set forth in Section 34.1 (“Confidentiality”).

“Confidentiality Affiliates” shall have the meaning set forth in Section 34.1(a) (“Confidentiality”).

“Consents” means all authorizations and approvals required to be obtained by Seller or Buyer, as the case may be, under the Transaction Documents, each of which shall be delivered to Buyer or Seller, as the case may be, prior to or at the Closing or as required under this Agreement.

“Construction Coordination Agreement” means the document to be entered into between the Seller and the Buyer, substantially in the form attached hereto as Appendix S.

“Construction/Site Manager” shall mean a representative of Seller designated as such pursuant to Section 7.14 (“Seller’s Representatives”).

“Contingent Obligation” means, with respect to any Person, (i) any indemnity or similar obligation of such Person under any agreement or instrument and (ii) any obligation of such Person guaranteeing or intended to guarantee any Indebtedness, leases, dividends or other obligations (“primary obligations”) of any other Person (the “primary obligor”) in any manner, whether directly or indirectly, including any obligation of such Person, whether or not contingent, (a) to purchase any such primary obligation or any property constituting direct or indirect security therefor, (b) to advance or supply funds

(1) for the purchase or payment of any such primary obligation or (2) to maintain working capital or equity capital of the primary obligor or otherwise to maintain the net worth or solvency of the primary obligor, (c) to purchase property, securities or services primarily for the purpose of assuring the owner of any such primary obligation of the ability of the primary obligor to make payment of such primary obligation or (d) otherwise to assure or hold harmless the owner of such primary obligation against loss in respect thereof.

“Contractor Drawings and Manuals” means all drawings and information developed by the Contractors and provided to the Seller in connection with the Contractor’s and any Subcontractor’s obligations under the Primary Construction Contracts as set forth in Appendix D.

“Contractor Guaranties” means the collective guarantees provided by any Equipment supplier, Subcontractor, or Contractor in connection with the Work and the Plant.

“Contractor” means the primary contractor engaged by Seller to perform the Work or construct the Plant pursuant to the [EPC Contract].

“Contractors’ Insurance” shall have the meaning assigned in Section 28.1 (“Effect of Force Majeure”).

“Control” means the possession or ownership, directly or indirectly, of the following: (a) in the case of a corporation, 50% or more of the outstanding voting securities thereof; (b) in the case of a limited liability company, partnership, limited partnership or venture, manager, managing member or general partner status and the right to 50% or more of the distributions therefrom (including liquidating distributions); (c) in the case of a trust or estate, trustee, successor trustee or alternate trustee, or 50% or more of the beneficial interest therein; (d) in the case of any entity, 50% or more of the economic or beneficial interest therein; or (e) in the case of any entity, the power or authority, through the ownership of voting securities, by agreement or otherwise, to direct the management, activities or policies of the entity.

“Costs” means, insofar as each of the following is directly related to the Project, (i) the wages, salaries and related payroll burdens, direct and applied material costs, related handling and transportation charges, travel, outside services and other direct expenses, plus the applicable mark-up for allocated overheads and (ii) general and administrative expenses as set forth in Appendix J and not already included in the immediately preceding clause (i). All such Costs shall be recorded and applied consistent with GAAP.

“Credit Matrix” Means the credit matrix attached as Appendix B to the PacifiCorp 2016 All Source RFP.

“Credit Rating” means, as of any date, the lower the lower of: (x) the most recently published senior, unsecured long-term debt rating (or corporate rating if a debt rating is not available) from S&P or (y) the most recently published senior, unsecured debt rating (or corporate rating if a debt rating is not available) from Moody’s. If option (x) and (y) are not available, the Credit Rating will be determined by the Company

through an internal process review and utilizing a proprietary credit scoring model developed in conjunction with a third party.

“Credit Support” means, prior to the Commercial Operation Date, the amounts, if any, and subject to Section 6, shown on the Credit Matrix.

“Credit Support Security” means a guaranty, Letter of Credit or Cash Escrow provided pursuant to Section 6.

“Critical Milestone” shall have the meaning set forth in Section 24.2(a) (“Critical Milestone Guarantee Liquidated Damages”).

“Cure Period” means a period of 12 months following the Substantial Completion Date.

“Default Security” shall have the meaning set forth in Section 6.2 (“Security”).

“Defect” means any defect in design, materials, Plant, manufacture or workmanship which adversely affects the operation, use or performance of the Work or any part thereof, or causes any increase in costs of maintenance or operation or any decrease in life expectancy or efficiency.

“Deferred Governmental Approvals” means, as of any date, all Governmental Approvals, other than the Buyer Governmental Approvals, (i) the procurement of which is not a Milestone that is scheduled to have occurred on or before such date and (ii) as to which there is a reasonable expectation on the part of a Seller that such Governmental Approvals will be obtained in the ordinary course of business and the failure to procure such Governmental Approvals on or before such date would not result in a Material Adverse Change.

“Deposit Account Control Agreement” means the Deposit Account Control Agreement to be entered into by and among the Buyer, the Seller and a banking or other financial institution acceptable to the Buyer.

“Dispatchable” means that the Project (i) is in a condition of readiness to generate power as demonstrated by, the most recent Preliminary Performance Test Report not disputed by the Buyer, (ii) has attained (x) at least 90% of the 1x1 Net Capacity but is otherwise meeting the Guaranteed Emissions and (y) 110% of the heat rate set forth in Section 3, Case 3 of Appendix H for purposes of calculating liquidated damages under Section 17.3 (“Buyer’s Request for Earlier Completion”), (iii) the Project can be operated in accordance with Prudent Industry Practice and all applicable Requirements of Law, including the Emissions Approvals and (iv) the “Functional Tests” identified in the Substantial Completion Criteria shall have been performed based on the Project operating in a 1x1 configuration and such tests shall have demonstrated that the 1x1 Net Capacity achieved the Substantial Completion Criteria that would be applicable to the Project when operating in a 1x1 configuration.

“Dollars” and the “\$” symbol means the lawful currency of the United States of America.



“Draft Manuals” shall have the meaning assigned in Section 7.10(d) (“Contractor Drawings and Manuals”).

“Effective Date” means the date of this Agreement first above written.

“Emissions Approvals” means the air emissions permits, if any, required for construction and operation of the Plant, including those Governmental Approvals identified in Appendix E, as “Emissions Approvals.”

“Emission Reduction Credits” means emission reduction credits to be used as emission offsets for the Project that are registered in the State Emissions Registry by UDAQ pursuant to Section R-307-403-8 of the Utah Administrative Code more specifically set forth on Appendix M.

“Environmental Health and Safety Program” means a corporate program maintained by or on behalf of the Seller that (i) provides a safe and healthful working environment for all employees, (ii) promotes the commitment to achievement of safety and health excellence, (iii) encourages employee and management involvement, (iv) is designed to prevent occupational injuries, illness, and damages to equipment, property, and the environment through implementation of cost effective safety and health plans that meet applicable Requirements of Law and consensus standards relating thereto including ASME, ANSI, NEC, and NFPA and is based on standards no less stringent than the Buyer’s own safety and health policies.

“Environmental Law” means any federal, state or local law including statutes, regulations, rulings, orders, administrative interpretations and other governmental restrictions and requirements having the force and effect of law relating to (i) the discharge or disposal of any substance into the air, soil or water, including pollutants, water pollutants or process waste water, (ii) storage, emissions transportation or disposal of any Regulated Material, (iii) the environment or hazardous substances, all as amended from time to time, (iv) land use requirements pertaining to Regulated Materials, including laws requiring environmental impact studies or other similar evaluations, and (v) environmental issues pertaining to the development, construction or operation of the Project.

“EPC Contract” means the Engineering, Procurement and Construction Contract, to be entered into between the [ ] and [ ], in form and substance acceptable to the Buyer, in its sole discretion.

“Equipment” means the equipment relating to the Project as described in Appendix B, and, where indicated in Appendix B, manufactured or provided by Approved/Preferred Suppliers.

“Equivalent Operating Hours” or “EOH” means the number of hours of operation equivalent to continuous loading at rated capacity, including actual operating hours adjusted for loading plus a set number of equivalent hours for each start/stop, rapid start/stop, water/steam injection, and all other adjustments pursuant to this Agreement all as set forth in Appendix H.

“Equivalent Starts” shall have the meaning assigned thereto in the technical documentation issued by the manufacturer of the Gas Turbines.

“Final Acceptance” means the completion of all items set forth as conditions of Final Acceptance in Appendix H and completion of the Final Punch List.

“Final Payment” means the final payment of the Purchase Price made upon Final Acceptance.

“Final Performance Guarantees” means the (i) Guaranteed Net Heat Rate and the Guaranteed Incremental Net Heat Rate and (ii) Guaranteed Net Capacity and the Guaranteed Incremental Net Capacity that are required to be demonstrated during the Performance Tests as a condition to Final Acceptance, all set forth in Appendix H.

“Final Performance Test Report” shall have the meaning set forth in Section 18.7(b) (“Timing”).

“Final Punch List” means the list of items and schedule for completion of the Project required to be completed by the Seller following the Substantial Completion Date, which list shall be issued to the Seller by the Buyer no later than five (5) Business Days after the Substantial Completion Date, all in accordance with Section 20.2 (“Care, Custody and Control; Punch List Items”).

“Fired Hours” means the time, rounded up to the next whole hour, from the opening of the natural gas supply valve to a Combustion Turbine and natural gas begins to flow, until such valve is closed and natural gas no longer flows.

“Force Majeure” means an event not reasonably anticipated as of the date of this Agreement, which is not within the reasonable control of the party affected thereby, could not have been avoided by the exercise of due diligence or operation in accordance with Prudent Industry Practices, is not the result of the failure to act or the negligence of such party, and which by the exercise of due diligence, the affected party is unable to overcome or obtain or cause to be obtained a commercially reasonable substitute therefor. To the extent that such event satisfies the test set forth in the preceding sentence, Force Majeure includes: acts of God, fire, flood, explosion, civil disturbance, sabotage, terrorism, hurricanes, tornadoes, lightning, earthquakes, war, action or restraint by court order or public or Governmental Authority; provided that none of the following constitute Force Majeure: (i) strikes or labor disturbances occurring at the Site or Contractor’s facilities, except to the extent such strikes or labor disturbances at the Site or Contractor’s facilities are directly related to strikes or labor disturbances that are simultaneously disrupting other business operations in the geographic region covered by the WECC; (ii) shortages (real or perceived) of labor available for on-site Work; (iii) delay or failure by the Seller to obtain any Governmental Approval, all of which should have been anticipated by the Seller in connection with Seller’s reply to the RFP, other than the delay or failure to obtain Governmental Approvals occasioned by (x) revocation, stay, or similar action by a Governmental Authority of a Governmental Approval after issuance thereof by a Governmental Authority, (y) the failure of a Governmental Authority to comply with rules, procedures or Requirements of Law applicable to such Governmental Authority or (z) another Force Majeure; or (iv) economic hardship including lack of money or credit and changes in exchanges rates (v) utility interruptions; (vi) shipping accidents or unavailability of preferred shipping methods.

“GAAP” means United States generally accepted accounting principles. “Gas Turbines” or “GTs” means the gas turbines described in Appendix B to this Agreement.

“Governmental Approval” means any authorization, approval, consent, waiver, exception, variance, order, publication, license, filing, registration, ruling, permit, tariff, certification, exemption and other action, requirement by or with, and notice to and declarations of or with, any Governmental Authority that are required in connection with the development, construction, ownership and operation of the Project.

“Governmental Authority” means any supranational, federal, state or other political subdivision thereof, having jurisdiction over the Seller, the Buyer, the Project or this Agreement, including any municipality, township and county, and any entity exercising executive, legislative, judicial, regulatory or administrative functions of or pertaining to government, including any corporation or other entity owned or controlled by any of the foregoing.

“Guaranteed Emissions” means the emissions guarantees when fired on natural gas in accordance with [*insert applicable Equipment manufacturer’s specification*], adjusted to Base Reference Conditions, all in accordance with the Performance Tests all as more fully described in Appendix H.

“Guaranteed Net Capacity” means the continuous steady-state full load Plant net electrical power output produced when operating in a 2x1 configuration (two Gas Turbines operating at full load at normal firing temperatures with the steam produced by the heat recovery steam generators (HRSG) supplied to the steam turbine generator), with no duct firing in the HRSGs, corrected to the Base Reference Conditions as specified in Section \_\_\_\_\_ in Appendix H while meeting the emissions requirements under Section 12.2 (“Seller’s Equipment on Site”). The net power output is the electrical power measured at the generator terminals, minus the Plant’s auxiliary power consumption of the Equipment, including the transformer and isophase bus losses, fired with natural gas fuel in accordance with [*insert Equipment manufacturer’s gas fuel specification*], corrected to the Base Reference Conditions.

“Guaranteed Net Heat Rate” means the net heat rate of the Plant when operated at the “Guaranteed Net Capacity”, as further specified in Appendix H.

“Guaranteed Substantial Completion Date” means May 1, 2012, 2013, or 2014 as specified by Bidder.

“Guaranty” means that certain Guaranty, if required by Buyer pursuant to Section 6.2 (“Security”), by and among Buyer, Seller, and Guarantor under which Guarantor guarantees each and every obligation of Seller under the Transaction Documents.

“Guarantor” means an entity meeting the credit criteria set forth in Section 6.1 (“Credit Requirements”) that guarantees, pursuant to a Guaranty acceptable to Buyer in its sole discretion, each and every obligation of Seller under the Transaction Documents.

“ID Tag” shall have the meaning set forth in Section 9.2 (“Site Security”).

“Indemnified Party” shall have the meaning set forth in Section 26.1 (“Indemnification for Third Party Claims”).

“Indemnifying Party” shall have the meaning set forth in Section 26.1 (“Indemnification for Third Party Claims”).

“Indemnity Period” shall have the meaning set forth in Section 26.3 (“Indemnification for Third Party Claims”).

“Indebtedness” means, with respect to any Person, without duplication, (i) all obligations of such Person for borrowed money, or with respect to deposits or advances of any kind, (ii) all obligations of such Person evidenced by bonds, debentures, notes or similar instruments, (iii) all obligations of such Person upon which interest charges are customarily paid (other than trade payables incurred in the ordinary course of business consistent with past practice), (iv) all obligations of such Person under conditional sale or other title retention agreements relating to property purchased by such Person, (v) all obligations of such Person issued or assumed as the deferred purchase price of property or services (excluding obligations of such Person to creditors for raw materials, inventory, services and supplies incurred in the ordinary course of such Person’s business), (vi) all lease obligations of such Person capitalized on the books and records of such Person, (vii) all obligations of others secured by a Lien on property or assets owned or acquired by such Person, whether or not the obligations secured thereby have been assumed, (viii) all obligations of such Person under interest rate or currency hedging transactions (valued at the termination value thereof, other than forward or spot foreign currency exchange contracts entered into in the ordinary course of business consistent with past practice), (ix) all letters of credit issued for the account of such Person (excluding letters of credit issued for the benefit of suppliers to support accounts payable to suppliers incurred in the ordinary course of business) and (x) all guarantees and arrangements having the economic effect of a guarantee of such Person of any Indebtedness of any other Person.

“Intellectual Property” means all patents, trademarks, copyrights, drawings and all computer software including the Computer Programs whether or not subject to statutory registration or protection, that are owned, used, filed by or licensed to the Seller for the Project.

“Interface” means those physical interconnections and interfaces at the Site described in Appendix B.

“Judgment” means any judgment, order, award, injunction, writ or decree of any Governmental Authority.

“Late Payment Rate” means an amount equal to the Prime Rate of Interest plus 500 basis points.

“Latent Defects” has the meaning set forth in Section 23.10 (“Latent Defects”).

“Latent Defects Liability Period” means the period which is five years calculated from the Substantial Completion date, subject in each case to Section 23.10 (“Latent Defects”).

“Lead Electrical” shall mean a representative of Seller designated as such pursuant to Section 7.14 (“Seller’s Representatives”).

“Lead Mechanical” shall mean a representative of Seller designated as such pursuant to Section 7.14 (“Seller’s Representatives”).

“Letter of Credit” shall mean an irrevocable standby letter of credit in a form reasonably acceptable to Buyer, naming Buyer as the party entitled to demand payment and present draw requests thereunder, which letter of credit:

(1) is issued by a U.S. commercial bank or a foreign bank with a U.S. branch, with such bank having assets (net of reserves) of at least \$10,000,000,000 and a credit rating on its senior unsecured debt of:

(a) “A2” or higher from Moody’s; and

(b) “A” or higher from S&P;

(2) on the terms provided in the letter of credit, permits Buyer to draw up to the face amount thereof for the purpose of paying any and all amounts owing by Seller hereunder;

(3) if a letter of credit is issued by a foreign bank with a U.S. branch, permits Buyer to draw upon a U.S. branch;

(4) permits Buyer to draw the entire amount available thereunder if such letter of credit is not renewed or replaced at least thirty (30) Business Days prior to its stated expiration date;

(5) permits Buyer to draw the entire amount available thereunder if such letter of credit is not increased, replaced or replenished as and when provided in Section 6.2 (“Security”);

(6) is transferable by Buyer to any party to which Buyer may assign this Agreement; and

(7) shall remain in effect for at least ninety (90) days after the end of the Term.

“Liabilities” means all Claims including those relating to Environmental Laws, demands, damages, losses, liabilities or judgments, including all interest, penalties, fines and other sanctions, and any reasonable costs or expenses in connection therewith, including attorneys’ and consultants’ fees and expenses.

“Lien” means any mortgage, pledge, security interest, encumbrance, option, defect, lien, charge or other similar right of any Person of any kind, including any lien or charge arising by statute or other law.

“Liquidated Damages” [To Come]

“Material Adverse Change” means any change in condition that actually has, or is reasonably likely to have, a significant adverse effect on (i) the Buyer’s ability to own, control, or operate the Project (financial or otherwise), (ii) the Project’s ability to operate

and deliver energy to the System, (iii) the Seller's ability, the Contractor's ability, any Subcontractor's ability or the Guarantors' ability, to perform its respective obligations in accordance with the Transaction Documents to which it is, respectively, a party, (iv) the Contractor's and any Subcontractor's ability to perform its respective obligations in accordance with the Transaction Documents, (v) the validity, perfection and enforceability of the Liens granted to the Buyer under the Security Documents, (vi) the ability of the Buyer to enforce any of the Secured Obligations or any of its material rights and remedies under the Transaction Documents; or (vi) Seller fails to meet the requirements of Section 6.1 ("Credit Requirements").

"Materials" means the Intellectual Property, the Equipment and other equipment, machinery, apparatus, materials, articles and things of all kinds to be provided and incorporated into the Project by the Seller and the Contractors under this Agreement (including spare parts to be supplied hereunder) other than Non-Buyer Materials.

["Member" means each Person to whom Membership Interests have been issued, as identified on Schedule 4.2].

["Membership Interests" shall have the meaning set forth in Section 4.2(a) ("Capital Structure")].

"Merit Shop" shall mean the construction philosophy which encourages open competition and a free-market approach that awards contracts to the lowest cost responsible bidder based solely on merit as determined by the Contractor, regardless of labor affiliation.

"Milestone" means a milestone for the development and construction of the Project as so designated on the list of schedule milestones set forth on Appendix I.

"Milestone Dates" means the date opposite each Milestone on or prior to which each such Milestone is anticipated to be achieved.

"MW" means megawatt.

"Necessary Governmental Approvals" means, as of any date, all Governmental Approvals, required under Requirements of Law in connection with (i) the due execution, delivery and performance by any Project Party of the Transaction Documents to which it is a party and (ii) the development, construction, operation and ownership of the Project as contemplated by the Transaction Documents on or prior to such date.

"Non-Buyer Materials" means any equipment, machinery, apparatus, materials, articles and things of all kinds that are not permanently incorporated into the Project.

"Notice of Final Acceptance" shall have the meaning set forth in Section 20.8 ("Notice of Final Acceptance of Work").

"Notice of Request for Progress Payment" shall mean a Notice of Request for Progress Payment in the form attached hereto as Exhibit A.

"Notice to Proceed" means the Notice to Proceed to be issued in accordance with Section 17.1 ("Notice to Proceed") in the form attached hereto as Exhibit C.

"OEM" means the original manufacturer of any Equipment comprising a portion of the Project.

“OEM Certified” means that the Equipment in question is certified by the manufacturer thereof as new and clean, not in need of repair, carrying full manufacturer’s warranties and guarantees applicable to newly-manufactured equipment of that type, and all reliability and design technical notices have been implemented.

“1x1 Net Capacity” means the continuous steady-state full load Plant net electrical power output produced when operating in a 1x1 configuration (one Gas Turbine operating at full load at normal firing temperatures with the steam produced by one heat recovery steam generator (HRSG) supplied to the steam turbine generator, with no duct firing in the such HRSG, corrected to the Base Reference Conditions as specified in Section 3, Case 3 of Appendix H while meeting the emissions requirements under Section 18.2 (“Emissions Guarantee”). The net power output is the electrical power measured at the generator terminals, minus the Plant’s auxiliary power consumption of the Seller’s supplied equipment and facilities, including the transformer and isophase bus losses, fired with natural gas fuel in accordance with [*insert Equipment manufacturer’s specifications*], corrected to the Base Reference Conditions.

“Operation and Maintenance Manuals” [To Come]

“PacifiCorp Hazard Communication Program” shall mean Buyer’s hazard communication program designated as such.

“PacifiCorp Transmission” means PacifiCorp, an Oregon corporation, acting in its transmission function capacity and any successor thereto.

“PacifiCorp Transmission Interconnection Agreement” means the interconnection agreement between the Seller and PacifiCorp Transmission that is in conformance with the requirements of PacifiCorp’s Open Access Transmission Tariff filed with the Federal Energy Regulatory Commission (or any successor thereto), as the same may be amended.

“Parties” shall have the meaning set forth in the preamble hereof.

“Performance Curves” means the performance correction curves described in Appendix H to this Agreement, as the same shall be adjusted to reflect the capability of the Plant expressed in terms of capacity as of the Substantial Completion Date and in terms of capacity and heat rate for the Performance Tests.

“Performance Guarantees” means the (i) Guaranteed Emissions, (ii) Guaranteed Net Heat Rate and (iii) Guaranteed Net Capacity that are required to be demonstrated during the Performance Tests as a condition to Substantial Completion, all set forth in Appendix H.

“Performance Test” or “Performance Tests” means the tests specified in Appendix H.

“Permitted Liens” means the Liens set forth in subsections 7.27(a) through 7.27(e), inclusive (“Contingent Obligations”).

“Permits” has the meaning set forth in Section 7.36 (“Permits”).

“Person” means any natural person, corporation, general or limited partnership, limited liability company, firm, joint venture, estate, association, trust, government,

governmental agency or any other entity, whether acting in an individual, fiduciary or other capacity.

“Plant” means the combined-cycle electric generating facility, to be located on the Site and to be constructed in accordance with this Agreement, as described more fully in Appendix B.

“Preliminary Performance Test Report” shall have the meaning set forth in Section 18.7(a) (“Test Reports”).

“Primary Construction Contracts” means the EPC Contract, any contract or agreement between the Contractor and any Subcontractor, and all agreements and documents referenced therein.

“Prime Rate” means the rate per annum (rounded upwards to the nearest 1/100th of 1% per annum) equal to the rate of interest which JP Morgan Chase in New York, New York or its successor announces from time to time as its “prime lending rate” or equivalent rate or if such rate is not available, another rate published as the “prime rate” as agreed by the Buyer and a Seller, with each change in such rate to be effective on the day on which such change is effective.

“Progress Payment Date” means the date on which a Progress Payment becomes due as set forth in Section 3.1(a) (“Terms”). [USE ONLY IF PROGRESS PAYMENT OPTION IS CHOSEN]

“Progress Payments” means (i) any amounts advanced to the Seller or made available by the Buyer pursuant to the Initial Development Funding Letter Agreement and (ii) the amount (in thousands of Dollars) set forth under the column heading entitled “SV Pymt (\$) Monthly” on Appendix I. [USE ONLY IF PROGRESS PAYMENT OPTION IS CHOSEN]

“Progress Report” shall have the meaning set forth in Section 10.8 (“Progress Reports”).

“Project” means (i) the Plant, (ii) the Site, and (iii) those certain tangible and intangible rights and assets required to own and operate the Plant (including without limitation Project Water Rights and Emission Reduction Credits), all in accordance with the Project Documents, all Requirements of Law and Prudent Industry Practices following construction of the Plant in accordance with the Specifications and upon the Plant having attained the Performance Guarantees.

“Project Documents” means once executed and in full force and effect, the Primary Construction Contracts, the PacifiCorp Interconnection Agreement and any Additional Project Document.

“Project Engineer” shall mean a representative of Seller designated as such pursuant to Section 7.14 (“Seller’s Representatives”).

“Project Manager” shall mean a representative of Seller designated as such pursuant to Section 7.14 (“Seller’s Representatives”).

“Project Party” means each of the Seller, the Contractor, any Subcontractor, and the Guarantor.



“Project Problem” shall have the meaning set forth in Section 10.8(b)(i).

“Project Schedule” means the Project schedule contained in Appendix F, and any modification thereof made pursuant to this Agreement.

“Project Water Rights” means the Water Rights necessary and sufficient to operate the Project consistent with the Specifications, providing not less than \_\_\_\_\_ acre-feet of water annually.

“Prudent Industry Practice” means any of the practices, methods and acts engaged in or approved by a significant portion of the electrical utility industry in the geographic region covered by the WECC, or its successor for gas-fired combined cycle electric generation facilities which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, would have been expected to accomplish the desired result in a cost-efficient manner consistent with good business practices and reliability criteria, safety considerations and expediency. Prudent Industry Practice is not intended to be limited to the optimum practice, method or act to the exclusion of all others but, rather, to be acceptable industry practices, methods or acts for gas-fired combined cycle electric generating facilities in the geographic region covered by the WECC.

[“PSCU” means the Public Service Commission of Utah. ]

“Purchase Price” shall have the meaning set forth in Section 2.2 (“Purchase Price”).

“Real Property” means all real property and interests in real property required in connection with the Project, other than the Water Rights.

“Reduction Amount” shall have the meaning set forth in Section 24.2(c) (“Critical Milestone Guarantee Liquidated Damages”).

“Regulated Materials” means any substance, material, or waste which is now or hereafter becomes listed, defined, or regulated in any manner by any United States federal, state or local law and includes any oil, petroleum, petroleum products and polychlorinated biphenyls.

“Release” with respect to any Regulated Materials and includes any release, deposit, discharge, emission, leaking, spilling, seeping, migrating, injecting, pumping, pouring, emptying, escaping, dumping, disposing or other movement of Regulated Materials.

“Remediation” includes any response, remedial, removal, or corrective action, any activity to cleanup, detoxify, decontaminate, contain or otherwise remediate any Regulated Material, any actions to prevent, cure or mitigate any Release of any Regulated Material, any action to comply with any Environmental Laws or with any permits issued pursuant thereto, any inspection, investigation, study, monitoring, assessment, audit, sampling and testing, laboratory or other analysis, or evaluation relating to any Regulated Material.

“Required Change” shall have the meaning set forth in Section 13.1 (“Change”).

“RFP” has the meaning assigned in the Recitals hereof.

“Safety Manager” shall mean a representative of Seller designated as such pursuant to Section 7.14 (“Seller’s Representatives”).

“Scope of Work” means the scope of work presented by Buyer by Seller in response to the RFP, on which the Purchase Price is based.

“Secured Obligations” means those obligations of the Seller secured by the Liens granted in favor of the Buyer pursuant to the Security Documents.

“Security Documents” means (i) the Deposit Account Control Agreement, (ii) the Assignment and Security Agreement and (iii) any other documents or filings determined by Buyer, in its sole discretion, to be necessary to grant or maintain the Liens granted by the Seller under the Assignment and Security Agreement that would affect the validity, perfection and enforceability thereof or for the exercise by the Buyer of its rights and remedies to enforce such Liens.

“Seller” shall have the meaning set forth in the preamble hereof, and includes any of the Seller’s successors and permitted assigns.

“Seller Default” means any of the events specified in Section 31.1 (“Buyer’s Obligation”).

“Seller-Initiated Change Order” shall have the meaning set forth in Section 13.1 (“Change”).

“Seller’s Representative” means the natural person designated as such by the Seller.

“Significant Defect” means a single or recurring Defect which occurs at any time within two years of Substantial Completion which results in the cessation of operation of the Plant or will not, unless corrected, allow the Buyer to operate the Plant within air quality or other emission limits or within parameters required to comply with any Requirements of Law for a period of either three (3) consecutive days or an aggregate of five (5) days in the case of a recurring Defect.

“Site” means the premises on which the Project is to be located in \_\_\_\_\_, together with all easements appurtenant thereto or required for the operation of the Facility, the legal description of all of which is set forth on Appendix A.

“Specifications” means the specifications for the Works set forth in Appendix B and Appendix H and any modifications thereof made pursuant to the terms hereof.

“[STATE ORGANIZATIONAL LAW]” shall have the meaning assigned in Section 4.3(b) (“Authority; Execution and Delivery; Enforceability”).

“Startup or Commissioning Manager” shall mean a representative of Seller designated as such pursuant to Section 7.14 (“Seller’s Representatives”).

“Subcontractor” means any Person, other than the Contractors, retained by the Seller to perform a part of a Seller’s obligations under any Transaction Document.

“Subsidiary” means, with respect to any Person, any corporation, limited liability company, partnership, association or other business entity of which (i) if a corporation, a majority of the total voting power of shares of stock entitled (without regard to the

occurrence of any contingency) to vote in the election of directors, managers or trustees thereof is at the time owned or Controlled, directly or indirectly, by that Person or one or more of the other Subsidiaries of that Person or a combination thereof, or (ii) if a limited liability company, partnership, association or other business entity, a majority of the partnership or other similar ownership interest thereof is at the time owned or Controlled, directly or indirectly, by any Person or one or more Subsidiaries of that Person or a combination thereof. For purposes hereof, a Person or Persons shall be deemed to have a majority ownership interest in a limited liability company, partnership, association or other business entity if such Person or Persons shall be allocated a majority of limited liability company, partnership, association or other business entity gains or losses or shall be or Control any director, managing member, manager, general partner, trustee or other controlling Person or member of such entity's governing body of such limited liability company, partnership, association or other business entity.

“Substantial Completion” means the Plant demonstrates the Substantial Completion Criteria.

“Substantial Completion Criteria” shall have the meaning set forth in Appendix H.

“Substantial Completion Date” means the date on which Substantial Completion is demonstrated.

“Substantial Completion LD Commencement Date” means the calendar day immediately following the Guaranteed Substantial Completion Date.

“Supplier” means any supplier of Equipment or Materials which (i) has a right to place a Lien on the Project and (ii) provided notice of such right to Seller.

“System” means the electric transmission sub-station and distribution facilities owned, operated or maintained by PacifiCorp Transmission, which shall include, after construction and installation of the Project, the circuit reinforcements, extensions, and associated terminal facility reinforcements or additions required to complete the Project, all as set forth in the PacifiCorp Transmission Interconnection Agreement.

“Target Date” means a date on which a Critical Milestone is to occur, as set forth in the Project Schedule.

“Tax” or “Taxes” means any United States federal, state or local income tax, ad valorem tax, excise tax, sales tax, use tax, franchise tax, real or personal property tax, transfer tax, gross receipts tax or other tax assessment, fee, levy or other governmental charge, together with and including any and all interest, fines, penalties, assessments and additions to the Tax resulting from, relating to, or incurred in connection with any of the foregoing or any contest or dispute thereof.

“Time for Completion” means that period between the Effective Date and the Substantial Completion Date.

“Title Company” means \_\_\_\_\_, or such other title company acceptable to the Buyer, in its sole discretion.

“Title Policy” means a title insurance policy issued by Title Company covering the Real Property interests comprising the Property to be transferred by Seller at Closing.

“Total Plant Capacity” means the Guaranteed Net Capacity. “Transaction Documents” means, once executed and in full force and effect, each of the following agreements: this Agreement, the Project Documents, the Security Documents and the Consents.

[“UDAQ” means the Division of Air Quality of the Utah Department of Environmental Quality.]

“Unidentified Project Problem” shall have the meaning set forth in Section 10.8 (“Progress Reports”).

“UPDES” means Utah Pollutant Discharge Elimination System and all Requirements of Law relating thereto.]

“UST” means underground storage tanks.

“Water Rights” means the water rights acquired for use in connection with the Project and acceptable to the Buyer, designated by the Buyer as “Project Water Rights.”

“WECC” means the Western Electricity Coordinating Council. “Witness Point Events” shall have the meaning set forth in Section 14.3 (“Inspection”).

“Witness Point Schedule” shall have the meaning set forth in Section 14.3 (“Inspection”).

“Work” means the Materials to be supplied and the entire works and services to be performed, or caused to be performed, by the Seller under this Agreement, together with any modifications thereto in accordance with the terms hereof.

“Year” means a calendar year.

Appendix G  
(Reserved)

## **APPENDIX H**

### **Substantial Completion, Final Acceptance, Performance Guarantees and Performance Tests**

# Appendix

## Performance Tests and Minimum Standards

<b>Section 1 – Mechanical Completion Tests</b> .....	5
<b>1.0 Mechanical Completion Tests</b> .....	6
<b>1.1 Mechanical Completion Test Procedures</b> .....	7
<b>Section 2 - Substantial Completion Criteria</b> .....	8
<b>Section 3 – Final Completion Criteria</b> .....	14
<b>Section 4 – Performance Guarantees</b> .....	19
<b>4.1 Thermal Performance Guarantee</b> .....	20
<b>4.2 Guaranteed Air Emissions</b> .....	24
<b>4.3 Guaranteed Noise Emissions</b> .....	24
4.3.1 Environmental Noise Emissions.....	25
4.3.2 In-Plant Noise Emissions.....	26
4.3.3 Indoor Sound Levels.....	26
<b>Section 5 - Performance Tests</b> .....	27
<b>Section 6 - Air Emissions</b> .....	35
<b>Section 7 - Noise Emissions Tests</b> .....	37
<b>7.0 Noise Emissions Test</b> .....	38
<b>7.1 Measurement Instruments</b> .....	38
<b>7.2 Measurement Conditions</b> .....	38
<b>7.3 Property Boundary Sound Level measurement</b> .....	39
<b>7.4 In-Plant Sound Level Survey</b> .....	41
<b>7.5 Indoor Sound Level Measurement</b> .....	41
<b>7.6 Test Report</b> .....	42
<b>Section 8 - Factored Fired Hours &amp; Factored Starts</b> .....	43
<b>Section 9 - Definition of Equivalent Degradation Hours &amp; Degradation Curve</b> .....	45
<b>Section 10 - Fuel Specification</b> .....	
<b>Section 11 - Water Specification</b> .....	47
<b>Section 12 – Correction Curves</b> .....	48
<b>Section 13 – Guaranteed Average Equivalent Availability</b> .....	49
<b>13.0 Guaranteed Average Equivalent Availability</b> .....	50

13.1	Conditions Applicable to the Average Equivalent Availability Test.....	51
<b>Section 14 - Performance Liquidated Damages .....</b>		<b>53</b>
14.1	General.....	54
14.2	Definitions.....	54
14.3	Calculatin of Liquidated Damages Relative to Net Capacity .....	55
14.4	Calculation of Liquidated Damages Relative to Incremental Capacity .....	55
14.5	Calculation of Liquidated Damages Relative to Net Heat Rate .....	55
14.6	Calculation of Liquidated Damages Relative to the Incremental Net Heat Rate	55



**Section 1**  
**Mechanical Completion Tests**

## **1.0 Mechanical Completion Tests**

Contractor shall perform and successfully complete the following tests (each, a “Mechanical Completion Test”). The Mechanical Completion Tests shall include all tests as are reasonably necessary, customary or required by Industry Standards to determine that all equipment and systems that comprise a portion of the Project function properly and within the parameters described in the Contract or in the Drawings and Specifications, as applicable.

Such tests shall include, but shall not be limited to, tests of the following items of equipment and systems:

- Low voltage switchgear and auxiliary transformers
- Auxiliary cooling water systems
- Compressed air system
- Air Cooled Condenser, including ACC fans and VFDs
- Condensate Pumps
- Chemical addition systems
- High voltage switchgear and electrical protection
- Main and auxiliary transformers
- Steam turbine
- Combustion turbines
- Heat recovery steam generators, duct firing systems, selective catalytic reduction and ammonia transfer systems and oxidation catalysts
- Main generators
- Service water system
- Water treatment systems
- Waste water discharge system
- Fire protection systems
- Auxiliary boiler and auxiliary steam system
- Natural gas preheating and gas pretreatment and filtration systems
- Emergency generator
- Uninterruptible Power Supply systems
- High pressure steam piping
- Reheat steam piping
- Safety valves
- Protective relays
- Instruments
- Controls

Such tests shall include the following types of tests:

- Radiograph selected piping
- Hydrostatic pressure tests per ASME, NFPA, AWWA, etc.
- Chemical cleaning
- Safety valve setting, if not factory set and sealed
- Balancing and vibration of all major rotating equipment
- Functional test of all safety devices (excluding safety valves and rupture discs)
- Functional tests of isolation and regulation valves
- Generator open circuit tests, if not performed at the factory
- Megger tests for power cables at voltages of 480V and higher
- Functional tests of controls and interlocks
- Settings of protective relays
- Bolt torque testing of field high voltage electrical connections
- Relay settings and amperage
- Electrical ground and/or insulation tests for all equipment
- Calibrate all instruments
- Check out of all instrument loops
- Operation of safety showers, eye wash stations and spill containment
- Automatic intervention of stand-by equipment where required (i.e. lube oil pumps)
- Load test of overhead cranes
- Operation of fire detection and alarm systems
- Operation of fire fighting equipment (NFPA requirements for systems operation)
- Successful operation of all system and subsystem components
- Other tests as specified in all applicable Codes and Industry Standards

### **1.1 Mechanical Completion Test Procedures**

Contractor shall (i) provide for Owner's review and approval detailed Mechanical Completion Test Procedures and Mechanical Test checklist by system or major equipment not less than ninety (90) days prior to the start of Mechanical Completion Testing, which Mechanical Completion Test Procedures must be agreed upon by Contractor and Owner at least sixty (60) days prior to the commencement of testing and (ii) Contractor shall keep the Project Representative continuously apprised of the specified schedule and changes thereto for the commencement and performance of such testing activities.

The Mechanical Completion Tests will be deemed complete for a given piece of Equipment or system when such Equipment or system has been tested in accordance with Section 1.0 above and demonstrated to operate properly without endangering people, causing damage to Equipment and system and/or the Project.

**Section 2**  
**Substantial Completion Criteria**

## **2. Substantial Completion Criteria**

The Parties recognize that the terms “Capacity”, “capacity”, “Power” and “power” are utilized interchangeably in this Appendix M and agree that such terms are synonymous as used herein.

The Plant will be deemed ready for Substantial Completion when all of the following have occurred:

1. The Plant is substantially and materially complete and has been fully designed, constructed and equipped in accordance with the Contract (except as provided in the Final Punch List).
2. All Governmental Approvals obtained by Contractor can be assigned or transferred in accordance with this Contract.
3. All Equipment and systems are operational in accordance with this Contract.
4. All Mechanical Completion Tests have been successfully completed and documented evidence has been provided to confirm such actions have been provided; all in accordance with the Contractor’s commissioning procedures.
5. All required air emissions source tests for each emissions source test identified in the Approval Order and required by the Title IV Acid Rain Program, including any compliance tests and CEMs certification tests (including RATA tests, cycle response time tests, linearity tests and seven day cal-error drift tests) shall be completed as required to meet the conditions of the Approval Order to operate the Plant. The Contractor shall, but not as a pre-requisite to achieve Substantial Completion, provide to the Owner, the draft test reports documenting the compliance test results and/or CEMS certification test results within 30 days after completing the required test(s). The Contractor shall provide a final test report for submittal by the Owner to the Utah Department of Air Quality within 45 days after completing the tests. All emissions source tests shall be conducted at the load conditions required by the Approval Order. An air stack emissions test will also be performed on the auxiliary boiler to demonstrate compliance with the Approval Order.
6. The following tests ( the “Functional Tests”) have been successfully completed:

- (i) Plant Hot Start - Contractor will complete two (2) tests that demonstrate the ability of the Plant to start-up from a hot standby condition (overnight shutdown equivalent, 8 hours or less) to base load condition (each Gas Turbine at its normal firing temperature limit without duct firing) within XX (to be provided by Contractor) minutes.
- (ii) Plant Full Load Capability Test - Contractor will complete one (1) test that demonstrates the ability of the Plant to start-up from a hot standby, "ready to run" condition within the duration defined below. The Plant shall be loaded to the full duct-fired Plant condition (each Gas Turbine at its normal full load firing temperature limit and the HRSG is duct firing at the maximum duct burner fuel flow for the ambient conditions of the test within XX (to be provided by Contractor) minutes.
- (iii) Plant Partial Load Operational Test - Contractor shall demonstrate that the loading on the Plant can be successfully and smoothly transitioned from the base load condition to % load in 10% load increments. The Plant shall be operated with stable output at each load setting for a period of not less than XX (to be provided by Contractor) minutes at each load setting.
- (iv) Plant Shutdown Test - Contractor will complete two (2) consecutive tests that demonstrate the ability of the Plant to safely shutdown from base load condition to a hot standby condition within XX (to be provided by Contractor) minutes.
- (v) Minimum Load - The minimum electrical output for 1x1 and 2x1 operating modes is as follows, as measured at the Unit generator(s) terminals:

One Combustion Turbine Operating at Base Reference Conditions

XXX (To be provided by Contractor) MW          Minimum Load

Two Combustion Turbines Operating at Base Reference Conditions

XXX (To be provided by Contractor) MW          Minimum Load

Note: The values indicated above include the gross output from both the combustion turbine(s) and steam turbine exclusive of auxiliary loads.

For the purposes of conducting the Substantial Completion Functional Tests, a “Start” shall be deemed to be the period of time from the start command to initiate roll of the Gas Turbine to valves wide open (HP and IP) for the Steam Turbine at the specified Gas Turbine load/duct firing conditions.

All activities required for these startup and shutdown tests shall be performed through the Plant's Distributed Control System (“DCS”) with the exception of any normally expected and routine action taken by an operator. The Plant's DCS shall control, or shall cause to be controlled, all Equipment necessary for the safe and reliable operation of the Plant with the exception of Equipment normally controlled manually.

In addition, the following Functional Tests shall have met the following requirements:

<b>Start-up After:</b>	<b>Duration (minutes)</b>
Hot Start - 8 hr or less shutdown (788 F or greater ST HP Rotor Temp)	XX
Shutdown to Hot Standby	XX

Plant has been maintained in a “ready to run” condition for the duration of the shutdown.

- A purge credit (using a postpurge per NFPA 85) has been established.
- Condenser vacuum has been maintained for the duration of the shutdown, using the auxiliary steam system to maintain Steam Turbine seals.
- HRSG has been maintained in a “bottled-up” condition during the shutdown with drain valves in AUTO to allow removal of condensation.
- Stack damper has been closed as soon after shutdown as possible to maintain heat in the HRSG.
- Sparging steam is supplied to the HP, IP and LP drums to maintain heat in the HRSG per the capability of the auxiliary steam system (if required)
- Sparging steam is supplied to the Condenser to maintain low condensate oxygen levels per the capability of the auxiliary steam system.

- All vessels, including but not limited to the HP, IP, and LP drums and Condenser hotwell are maintained at prestart levels.
- All manual valves are maintained in the as-operating position.
- Control system is set to auto.
- All applicable electrical systems are energized.

Shutdown duration is defined as the time between plant at base load condition and all three generator breakers open.

Testing of the start-up and shutdown durations is contingent upon the grid accepting the required load ramp rates.

Steam Turbine HP rotor temperatures are predicted values based on average cool down rates and assume Steam Turbine was shutdown in a manner designed to preserve Steam Turbine temperature.

7. The Plant demonstrates the following as established by the thermal Performance Tests:

- a) No less than (i) 95% of the Guaranteed Net Capacity and (ii) 95% of the Guaranteed Incremental Net Capacity pursuant to Section 3.1 herein; and
- b) No more than (i) 105% of Guaranteed Net Heat Rate and (ii) 105% of the Guaranteed Incremental Net Heat Rate pursuant to Section 4.1 herein.

The Performance Tests for Substantial Completion shall be conducted in accordance with the procedures and conditions set forth in this Appendix M. The criteria above shall be demonstrated as measured with Plant instrumentation and special instruments as required by the Performance Test procedures when firing natural gas in accordance with the Fuel Gas Specification set forth in Section 10 herein. Performance will be adjusted to the Base Reference Conditions specified herein from the test conditions using the Site specific performance correction curves (to be provided after the execution of the Contract). Results shall be corrected for any of the Owner's equipment auxiliary loads and corrected for degradation for operating hours in excess of the number of Equivalent Degradation Hours as defined in Section 9 of this Appendix M. Plant



performance tests will be performed with two plant operators; one operator will be in the main control room and the second in the plant to perform equipment operations.

**Section 3**  
**Final Completion Criteria**

### 3. Final Completion Criteria

The Plant will be deemed ready for Final Acceptance when all of the following has occurred:

- a. Substantial Completion has occurred and (i) Contractor has demonstrated Guaranteed Net Capacity Unfired or has paid the applicable liquidated damages per the calculations provided in Section 14 of this Appendix H, (ii) Contractor has demonstrated the Guaranteed Net Capacity Fired or has paid the applicable liquidated damages per the calculations provided in Section 14 of this Appendix H (iii) Contractor has demonstrated Guaranteed Net Heat Rate Unfired or has paid the applicable liquidated damages per the calculations provided in Section 14 of this Appendix H and (iv) Contractor has demonstrated Guaranteed Net Heat Rate Fired or has paid the applicable liquidated damages per the calculations provided in Section 14 of this Appendix M.
- b. The following Functional Tests have been successfully completed:
  - (i) Plant Cold Start - one (1) test that demonstrates the ability of the Plant to start-up from a cold standby condition (shutdown for 72 hours or more) to base load condition (each Gas Turbine at its normal firing temperature limit without duct firing) within **XX (to be provided by Contractor)** minutes.
  - (ii) Plant Warm Start - two (2) consecutive tests that demonstrate the ability of the Plant to start-up from a warm standby condition (weekend shutdown equivalent, or 48 hours) to base load condition (each Gas Turbine at its normal firing temperature limit without duct firing) within **XX (to be provided by Contractor)** minutes.
  - (iii) Plant Hot Start - two (2) tests that demonstrate the ability of the Plant to start-up from a hot standby condition (overnight shutdown equivalent, 8 hours or less) to base load condition (each Gas Turbine at its normal firing temperature limit without duct firing) within **XX(to be provided by Contractor)** minutes.
  - (iv) Full Load Steam Bypass to Condenser - one (1) test that demonstrates the ability of the steam turbine to be tripped off line with the Plant at full load capacity so that the Gas Turbines continue to operate at full load with steam from the HRSGs bypassed to the condenser for a period of not less than four (4) hours.
  - (v) Auxiliary Boiler Capability Test (full load capability) - one (1) demonstration test of the ability of the auxiliary boiler to produce the design capacity of superheated steam at

design conditions and the fuel use for its production. The demonstration may be by the input-output method of boiler testing and utilizing Plant instrumentation. Results shall be corrected to the boiler vendor's reference conditions and, for purposes of this demonstration; a tolerance equivalent to the test uncertainty shall be applied.

(vi) Diesel Generator Capability Test (full load capability) - one (1) demonstration test of the ability of the standby diesel generator to produce the design power capacity within the startup time criteria.

For the purposes of conducting the 2 x 1 Functional Tests, a "Start" shall be deemed the period of time from the ignition of the Gas Turbine to valves wide open (HP and IP) for the steam turbine. All activities required for these startup and shutdown tests shall be performed through the Plant's Distributed Control System ("DCS") with the exception of any normally expected and routine action taken by an operator. The Plant's DCS shall control, or shall cause to be controlled, all Equipment necessary for the safe and reliable operation of the Plant with the exception of equipment normally controlled manually. Plant performance tests will be performed with two plant operators; one operator will be in the main control room and the second in the plant to perform equipment operations. Plant performance tests will be performed with two plant operators; one operator will be in the main control room and the second in the plant to perform equipment operations.

In addition, the Functional Tests shall have met the following conditions/requirements:

<b>Start-up After:</b>	<b>Duration (minutes)</b>
Hot Start – less than 24 hour shutdown	XX
Warm Start – 24 to 72 hour shutdown	XX
Cold Start - 72 hour to 5 day shutdown	XX

Plant has been maintained in a "ready to run" condition for the duration of the shutdown.

- A purge credit (using a postpurge per NFPA 85) has been established.
- Condenser vacuum has been maintained for the duration of the shutdown, using the auxiliary steam system to maintain Steam Turbine seals.

- HRSG has been maintained in a “bottled-up” condition during the shutdown with drain valves in AUTO to allow removal of condensation.
- Stack damper has been closed as soon after shutdown as possible to maintain heat in the HRSG.
- Sparging steam is supplied to the HP, IP and LP drums to maintain heat in the HRSG per the capability of the auxiliary steam system (if required)
- Sparging steam is supplied to the Condenser to maintain low condensate oxygen levels per the capability of the auxiliary steam system.
- All vessels, including but not limited to the HP, IP, and LP drums and Condenser hotwell are maintained at prestart levels.
- All manual valves are maintained in the as-operating position.
- Control system is set to auto.
- All applicable electrical systems are energized.

Shutdown duration is defined as the time between plant at base load condition and all three generator breakers open.

Testing of the start-up and shutdown durations is contingent upon the grid accepting the required load ramp rates.

ST HP rotor temperatures are predicted values based on average cool down rates and assume ST was shutdown in a manner designed to preserve ST temperature.

- c. The Plant demonstrates the Guaranteed Noise Emissions specified in Section 7 herein.
- d. Record drawings have been delivered to the Owner in accordance with Appendix N of the Contract. Final training, spare parts lists, and operation and maintenance manuals have been submitted to the Owner.
- e. Final Punch List items have been completed.
- f. The Plant has demonstrated the Guaranteed Average Equivalent Availability of ninety five percent (95%) during the 168-hour test pursuant to Section 13 herein **or** the Plant has demonstrated an Average Equivalent Availability of at least ninety three percent (93%) during the 168-hour test pursuant to Section 13 herein and the Contractor has

paid the Liquidated Damages in accordance with the calculations per Section 13 of this Appendix.

- g. The Owner shall conduct a series of HP superheater and reheater drains system acceptance tests during commissioning of the unit. Input data for these tests shall be provided by temporary tube temperature thermocouples and drain pot temporary thermocouples installed during fabrication and erection for this purpose and by normal plant instrumentation. Data from the temporary thermocouples shall be recorded at 2 second intervals during a period beginning 15 minutes prior to initiation of the CTG pre-start purge cycle until 15 minute after the unit has stabilized at full CTG load. Data shall be recorded for cold HRSG startup from initial conditions of zero HP drum pressure, warm HRSG startup from initial conditions of approximately 2 psig HP drum pressure, hot HRSG startup from initial conditions of approximately 75% of rated full HP drum operating pressure, and HRSG normal shutdown. If a temporary data acquisition system is utilized for recording temporary thermocouple data the DCS and temporary data acquisition system clocks shall be synchronized prior to each test. The acceptance criteria shall be no migration of condensate indicated during any test period by tube temperature thermocouples or attemperator inlet/outlet thermocouples, and no indication of steam exiting any drain pot during any test period as indicated by temporary drain pot thermocouples.

**Section 4**  
**Performance Guarantees**

**4. Performance Guarantees**

**4.1 Thermal Performance Guarantees**

Performance consists of the Base Load Unfired Electrical Output (Net Capacity Unfired), the Base Load Unfired Heat Rate (Net Heat Rate Unfired), Peak Load Fired Electrical Output (Net Capacity Fired), Peak Load Fired Heat Rate (Net Heat Rate Fired), and Equivalent Availability.

**2 x 1 Guaranteed Thermal Performance**

**Table 1 -Base Reference Conditions**

	<b>CASE 1</b>	<b>CASE 2</b>
Load Level	BASE	BASE
Plant Equipment Condition	New & Clean	New & Clean
Ambient Temperature, °F	95	95
Ambient Relative Humidity , %	20	20
Barometric Pressure, psia	12.458	12.458
Fuel Type	Natural Gas	Natural Gas
Fuel Heating Value – Btu/lbm (LHV)	See note 4	See note 4
Fuel Composition	See note 4	See note 4
Fuel Temperature at Test Boundary, °F	60	60
Fuel Delivery Pressure to Site, psig	525 (minimum)	525 (minimum)
Generator Power Factor (lagging)	0.90	0.90
System Frequency, Hz	60	60
HRSG Blowdown, %	0	0
Evaporative Cooler Status, On/Off	On	On
Duct Burner Status, On/Off	Off	On



**Table 2 - Guaranteed Performance Data**

	<b>Column 1</b>	<b>Column 2</b>
Net Capacity Unfired and Fired, kW	<div style="background-color: yellow; width: 100px; height: 1em; margin-bottom: 5px;"></div> kW, Unfired (GNC-Guaranteed Net Capacity)	<div style="background-color: yellow; width: 100px; height: 1em; margin-bottom: 5px;"></div> kW, Fired
Net Incremental Capacity due to Duct Firing, kW (Net Capacity, Fired Column 2 minus Net Capacity Unfired Column 1)	Does not apply	<div style="background-color: yellow; width: 100px; height: 1em; margin-bottom: 5px;"></div> kW (GINC-Guaranteed Incremental Capacity)
Net Heat Rate Unfired and Fired, Btu/kWh (LHV)	<div style="background-color: yellow; width: 100px; height: 1em; margin-bottom: 5px;"></div> Btu/kWh (LHV)  (GNHR, Guaranteed Net Heat Rate)	<div style="background-color: yellow; width: 100px; height: 1em; margin-bottom: 5px;"></div> Btu/kWh (LHV)
Net Incremental Heat Rate due to Duct Fired Capacity, Btu/kWh (LHV) (Difference in Heat Input at Fired Capacity and Unfired Capacity divided by Net Incremental Capacity in kW)	Does not Apply	<div style="background-color: yellow; width: 100px; height: 1em; margin-bottom: 5px;"></div> Btu/kWh (LHV)  (GINHR, Guaranteed incremental Heat Rate)
Ramp Rate Guarantee	<div style="background-color: yellow; width: 100px; height: 1em; margin-bottom: 5px;"></div> MW/minute	

Ramp Rate Guarantee - Plant shall be capable of operation in automatic generation control while in compliance with the emissions requirements and noise limits. While each CTG unit is operating at the Guaranteed Minimum Output, at base load and each output level in between and in all operating conditions and while ramping of the CTGs from the Guaranteed Minimum Output to base load; the Guaranteed Ramp Rate of the complete combined cycle plant is **XX (to be provided by Contractor)** MW/min up and/or down repeatedly on a continuous basis with no hold points or settling times.

**Table 3 – Performance Conditions**

Performance is based on the following plant operating conditions and parameters, collectively known as the “Performance Conditions”. Any deviations from the Base Load Unfired and Base Load Fired Project Performance Conditions during the Performance Tests will require an appropriate correction of test data back to the Base Load Unfired and Base Load Fired Project Performance Conditions before comparison to the Estimated Performance.

Definition of Base Load Unfired and Peak Load Fired Electrical Output	Electrical output measured on the high side of the generator step-up transformers.
Definition of Base Load Unfired and Peak Load Fired Heat Rate	Total plant fuel heat consumption in Btu/h (LHV) divided by the net plant output in kilowatts.
Test Tolerance	A tolerance equal to 0.5% for capacity and 0.5% for heat rate. No other uncertainty, dead band, or test tolerance shall be applied.
Combustion Turbine Load	Base Load as defined by the manufacturer’s exhaust temperature control curve.
Auxiliary Equipment Operation	Only the equipment required to achieve Base Load Unfired/Fired operation of the Facility will be in operation.
Condition of Equipment	New and clean with less than XX (to be provided by Contractor) equivalent fired or base hours. A degradation correction will be applied according to CTG and STG OEM curves if Fired hours are greater than XX (to be provided by Contractor) at the time of the test.
Natural Gas Flow Measurement	The natural gas flow measurement used to calculate the as-tested plant heat rate shall be measured using the CTG OEMs flow section* with high precision temporary instruments installed by the contractor. Gas samples will be taken during the test for laboratory analysis of heating value.  * A flow section with 1 percent measurement uncertainty, suitable for EPA emissions reporting, must be specified to the CTG OEM.

**NOTES:**

1. The Guaranteed Performance Data must be verified in general accordance with ASME PTC-46, "Performance Test Code on Overall Plant Performance".
2. Division of responsibility for the performance of the test shall be as set forth in Article 12 of the Contract.
3. The Guaranteed Net Capacity is defined as set forth in Section 1.1 of Article 1.
4. The fuel gas composition (by vol.%). Corrections to the performance test shall be provided for variations from this composition.
5. Performance guarantees for duct fired operation (Case 2) are defined on an incremental basis. Guarantee values represent the incremental heat input required for HRSG duct firing, divided by the incremental capacity obtained.

## 4.2 Guaranteed Air Emissions

<b>REFERENCE CONDITIONS</b>		
Fuel Type	Natural Gas	Natural Gas
Mode	Combined Cycle	Combined Cycle – Maximum Duct Firing
Ambient Temperature Range, °F	-16 to 105	-16 to 105
Gas Turbine Load (%)	% Minimum load Contractor will guarantee emissions	Base
Duct Burner maximum heat input (MMBtu/hr, LHV) – Contractor to confirm during detailed design	Off	Not to Exceed Btu/hr (LHV)
<b>EMISSIONS DATA (per HRSG Stack)</b>		
NO <sub>x</sub> (ppmvd @ 15% O <sub>2</sub> )	Note 1	Note 1
CO (ppmvd @ 15% O <sub>2</sub> )	Note 1	Note 1
VOC as CH <sub>4</sub> (ppmvd @ 15% O <sub>2</sub> ) * Note	Note 1	Note 1
Particulate (lbm/hr) (front and back half)	Note 1	Note 1
NH <sub>3</sub> Slip (ppmv @ 15% O <sub>2</sub> )	Note 1	Note 1

*\*Note 1: Emissions shall be in accordance with Appendix U,*

Stack tests will be performed in accordance with the reference test methods set forth in the Approval Order (Air Permit). To the extent the specific test methods are not set forth in the Approval Order, then for the purposes of demonstrating the guaranteed air emissions, such air emissions shall be demonstrated by performing testing at the exhaust stack in accordance with the following United States Environmental Protection Agency (USEPA) Test Methods:

1. NO<sub>x</sub> – USEPA Method 7E

Demonstration of the NO<sub>x</sub> guarantee is based on the average of three (3) one hour test runs at each test point. The test points will be the minimum CTG and maximum CTG loads plus duct firing contribution the guaranteed load range.

2. CO – USEPA Method 10

Demonstration of the CO guarantee is based on the average of three (3) one hour test runs at each test point. The test points will be the minimum and maximum CTG loads in the guaranteed load range

3. VOC – USEPA Methods 25A and 18

VOC are total hydrocarbons excluding methane and ethane and are expressed in terms of CH<sub>4</sub>. Demonstration of the VOC guarantee is based on the average of three (3) one hour test runs at each test point. If Method 18 is required, at least three (3) samples will be analyzed and averaged for each test run. The test points will be the minimum and maximum CTG loads in the guaranteed load range.

3. Particulate – USEPA Methods 5/OTM-028

Demonstration of the Particulate guarantee is based on the average of three (3) test runs at each test point. The gas turbine shall be operating at steady state conditions at the initial test load for at least two (2) hours prior to commencement of testing. Each test run shall be of sufficient length to collect a minimum sample volume of 150 cubic feet. A one-piece nozzle and probe assembly lined with borosilicate or quartz glass shall be utilized. The actual fuel flow rate during particulate testing shall be utilized to determine the exhaust gas flow rate per USEPA Method 19 when converting from units of concentration to the guaranteed emission rate. The test point will be at the maximum CTG load in the guaranteed load range.

4. Ammonia – USEPA Method 26/ISE

Demonstration of the Ammonia Slip guarantee is based on the average of three (3) one hour test runs at each test point. Each test run shall be of sufficient length to collect a minimum sample volume of 15 cubic feet. The test points will be the minimum and maximum CTG loads in the guaranteed load range.

5. Sulfur – ASTM D5287 – per EPA recommendations

7. Emission guarantees apply during steady state operation and not during startup, shutdown, transient conditions and/or initial commissioning activities.

8. The base load condition is determined by operating on the exhaust temperature control curve with the Inlet Guide Vanes (IGV) in the nominal open position.
9. Emissions guarantees are on an individual stack basis and do not include ambient air contributions and are based on the design fuel composition and fuel temperatures as specified on in Section 4.1 above.

**Section 5**  
**Performance Tests**

## **5. Thermal Performance Tests**

In this Section 5 of Appendix H, Contractor shall perform Contractor's obligations herein.

The Performance Tests shall be conducted in general accordance with ASME PTC-46 unless mutually agreed upon by the parties.

Contractor shall plan, coordinate and conduct all of the Performance Tests. Assistance by the personnel of the Owner however shall be provided to the extent provided in the Contract.

The Contractor shall prepare and issue nine (9) months prior to the Guaranteed Substantial Completion Date, a detailed test procedure developed on the basis of using all applicable performance test codes set forth in this Appendix M and as otherwise agreed by Owner and Contractor. This procedure will be reviewed and approved by the Owner and all the tests will be witnessed by the Owner. Owner may utilize an independent third party to monitor, review and verify test procedures, performance tests and results. The test procedure shall include, but not be limited to the following:

- Administrative procedures.
- Test Procedures (including: duration, quantity, sampling requirements, test points, averaging methodology, instrumentation accuracy quality and calibration standards cycle isolation requirements).
- Correction curves and sample calculations, including all corrections to be applied, provided in algebraic format.
- The location of all test instrumentation.

Before the Performance Tests are conducted the Contractor must be given the opportunity to check all the main components in order to judge whether the Plant is in a suitable condition for the test. The Contractor shall be given opportunity to perform restorative measures within Contractor's scope of supply as Contractor sees fit. Prior to the Performance Tests, all Plant equipment directly associated with cycle performance shall be properly adjusted, calibrated, tuned, and washed to the satisfaction of the Contractor. The Equipment shall be in proper and clean working condition, and shall be functioning within its normal operating range as allowed by the equipment manufacturers.



Prior to the Performance Tests, the compressors of the Gas Turbines will be cleaned. This cleaning will be performed by the Contractor for all tests. The air intake filters must be clean or Owner and Contractor will mutually agree upon a correction factor. Should any major defects be detected they must either be rectified or a mutual Contract must be reached on how to account for them in the final results.

During the Performance Tests, the Contractor shall direct the Owner's operation and maintenance personnel in the operation of all the Equipment associated with the test and shall be responsible for the co-ordination of all on-site logistical activities in support of the tests.

All Performance Tests shall be run under normal operating conditions with essential equipment in automatic control (i.e., no control system jumpers for essential controls, forces, alarm bypasses or temporary hookups).

Contractor's testing personnel, will also be present during the conduct of Performance Tests. Performance Tests should be performed at conditions as close as possible to the reference conditions. Correction curves will be used to convert the measured data at test conditions to the appropriate values at guarantee conditions. Other correction methods may be used if they are mutually agreed upon by the parties prior to the Performance Test. PTC 46 required corrections include inlet temperature, pressure and humidity, power factor, heat sink conditions, fuel analysis and all other base reference external or operating parameters. The degradation curve will be used to account for the effect of aging on capacity and heat rate.

All Performance Testing shall be subject to review and potential re-testing if performance-related control system settings are materially changed after Performance Tests have been run. Performance Test protocols shall incorporate a logical sequence of testing to reduce the potential of control system setting changes being required after related Performance Tests are run (i.e. Gas Turbine emissions and control settings should be completed prior to emissions testing, which in turn should be completed prior to Performance Testing).

All Performance Tests shall be conducted with the Continuous Emissions Monitoring systems, and associated data acquisition systems, in service.

Performance Test readings shall be taken at least once every five minutes except for any required manual data during each Performance Test run and average readings shall be

calculated. The frequency of manual data (such as some electric metering) is dependent on the resolution of the metering. Fuel samples shall be taken at least once every 30 minutes.

General observations regarding current weather conditions, as well as significant changes in weather conditions shall be recorded on a regular basis during the applicable Performance Testing period.

In order to minimize the potential for misleading data measurements inherent with transient operation of the Plant, reasonable efforts shall be made to minimize the variation in independent test variables (those that can be controlled) during the conduct of the Performance Tests.

Prior to the Performance Test, the Contractor shall have the right to run preliminary tests in order to determine whether the Works are in a suitable test condition and to check the test instrumentation. The most recent available fuel analysis is to be used for the evaluation of the preliminary test. The Performance Test shall not be performed before the preliminary tests have been fully evaluated unless the Contractor chooses not to perform any preliminary tests.

#### Net Capacity Test ("NCT") :

Three 1-hour Net Capacity Test runs will be performed to demonstrate the net electrical output. The Net Capacity Test shall be run concurrently with the Net Heat Rate Test, as set forth below. Start of each test run shall be identified prior to commencing. The Contractor and Owner shall verify the validity of the test data resulting from each test. If the test data from any test are determined to be invalid, the complete results of such test shall be disregarded. The results of at two valid runs shall be averaged to determine the net capacity.

Net Capacity (kW) is defined as gross capacity generated at the generator terminals less the Plant's auxiliary loads during normal operation, as corrected to base reference conditions. Plant auxiliary loads consist of electric loads associated with Contractor's equipment and the losses through the transformers. Capacity corrections shall include, but not be limited to:

- Barometric pressure
- Inlet temperature to plant equipment
- Relative humidity
- Evaporative Cooler Performance

- Generator power factor
- Fuel gas composition
- Duct Burners Heat Input

### Net Heat Rate Test (“NHRT”)

Three 1-hour Net Heat Rate Test runs will be conducted and performed concurrently with the respective Net Capacity Test. The Contractor and Owner shall verify the validity of the test data resulting from each NHRT. If the test data from any NHRT are determined to be invalid, the results of such NHRT shall be disregarded. Net Heat Rate is defined as total fuel consumed (in MMBtu) in the Gas Turbines and the Heat Recovery Steam Generator duct burners divided by the Net Capacity (in kW) of the Plant, as corrected to base reference conditions. Heat Rate correction factors shall include, but not be limited to:

- Barometric pressure
- Inlet temperature to plant equipment
- Relative humidity
- Generator power factor
- Fuel gas composition
- Duct Burners Heat Input

### Performance Test Procedures

#### General

The Performance Test Procedures for the NCT and the NHRT shall be written in accordance with the ASME Performance Test Code (PTC) for testing Overall Plant Performance (PTC 46). This includes methods to assure the quality of instrumentation requirements and locations, calibration requirements, fuel sampling, performance data collection and data reduction.

Data reduction and calculation methods will be mutually agreed-upon between Contractor and Owner.

Contractor will provide to the Owner the results in a written report of each completed Performance Test. The data is evaluated immediately after completion of the test, however, using an assumed fuel analysis based on earlier samples, and the necessary calculations are performed. The final results are presented shortly after obtaining the results of the fuel analyses from the actual test fuel samples. The Performance Test report contains the evaluations of the test recordings, the fuel analyses, the calculations, the Performance Test results and all other information needed to verify the Performance Guarantees of the Works. A preliminary report shall be provided to the Owner by the Contractor within three (3) Business Days of receipt of the fuel analyses, and shall include the final test results to which the Contract guarantees can be compared. The preliminary report shall include the data, including fuel analyses, calculations, and results. A final detailed report shall be provided to the Owner by the Contractor within fifteen (15) Business Days of completing the Performance Test.

After completion of each test, the Owner will receive copies of all the recorded observations, measurements and instrument readings necessary for the objective of the test. If required, these records shall be countersigned by the Owner and the Contractor.

#### Corrections for Deviations from Guarantee Conditions

The Performance Tests will be conducted as soon as practical in accordance with the Contract. The Performance Guarantees are based on equipment in new and clean condition. The Contractor will apply degradation adjustments to the Net Capacity and the Net Heat Rate per the correction factors as supplied by the Contractor as part of the correction.

Where applicable, other corrections will be based on mutually-agreed upon performance curves and otherwise in accordance with ASME PTC 46.

Natural gas conforming to the requirements of Section 10, herein, shall be provided by the Owner during all tests. Natural gas samples will be collected before, during, and at the end of the performance test runs. Both the Contractor and the Owner receive one set of fuel samples. A third set of fuel samples is set aside that can be used in the case of subsequent disputes. A mutually acceptable independent testing laboratory will be used for analysis of natural gas. Test results shall be corrected to the performance gas analysis used for the Performance Guarantees and based on the gas analyses performed on the gas samples taken during testing. The fuel heating value shall be determined by the average value of samples taken during each test run. The cost for sampling and analysis is by the Contractor. If an on-line gas

chromatograph is available then these readings may be used as the basis for all evaluations if the Contractor approves. The gas chromatograph unit must, in this case, be properly calibrated prior to the Performance Test, and verification thereof must be made available to the Contractor. The Contractor shall always reserve the right to substitute the laboratory fuel analysis once received for the final test results.

#### Test Capacity Uncertainty and Test Heat Rate Uncertainty

The results shall be reported as measured and corrected per the accepted test procedure, without any adjustment for test uncertainty. There shall be a tolerance of 0.5% applied to the reported test results for power and heat rate for the purpose of, and as described in Section 14 and that wherever pursuant to this Contract there are computations to be made based on test results, then such computations shall be made using the Performance Test Values as follows: The Net Capacity Test Value is the value resulting from adjusting the Corrected Capacity Test Result upward by 0.5%. The Net Heat Rate Test Value is the result of adjusting the Corrected Heat Rate Test Result downward by the 0.5%.

#### Instrumentation and Measurements

The Performance Test Procedure will identify specific instrumentation, instrument accuracy level, instrumentation calibration requirements, and correction factors and correction curves to adjust the performance data from actual test conditions to Base Reference Conditions. In order to verify the Performance Guarantees, special instrumentation that is required must be in accordance with ASME PTC46. Where Plant instrumentation does not meet PTC 46 requirements, these instruments are to be provided and calibrated by the Contractor. Calibration protocols will be in accordance with ASME PTC 46.

Station instruments may be utilized as applicable for Performance Testing. Temporary instrumentation may be used as deemed necessary by the Contractor.

Inlet dry bulb and wet bulb temperature measurements will be made utilizing high accuracy instrumentation at the combustion turbine air filter, downstream of the evaporative cooler, and at the air cooled condenser. Alternatively, inlet dry bulb and humidity measurements may be made.

### Auxiliary Loads

All auxiliary loads as required for normal service shall be operating, as applicable, consistent with normal operation conditions. The Performance Guarantees shall not be adjusted or corrected for any differences in the expected versus actual auxiliary power consumption.

**Section 6**  
**Air Emissions**

**Section 6     Air Emission Test**

The Contractor shall prepare the air emissions source test procedures set forth in Section 4 of this Appendix H and shall perform all tests in compliance with the requirements of the applicable Governmental Authorities responsible for monitoring such testing.



**Section 7**  
**Noise Emissions Tests**

## **7.0 Noise Emissions Test**

- (a) The Contractor shall conduct noise emissions performance testing to determine compliance with the Guaranteed Noise Emissions. The noise emissions test shall be conducted in accordance with the test protocol detailed herein as adapted from industry standards including ANSI B133.8, ANSI/ASME PTC 36, ANSI S1.13, ANSI S12.18, ANSI S12.56, ISO 10494, and ISO 3746. The Contractor shall conduct the survey with the facility operating at or near full load conditions. The Owner shall be notified prior to the survey and given the opportunity to witness the testing. The testing shall be conducted by personnel who are qualified through experience or training to conduct industrial facility noise surveys.

## **7.1 Measurement Instrumentation**

- (a) All sound level measurements shall be conducted using a sound level meter that meets the requirements of ANSI S1.4. The sound level meter shall be equipped with integrating capabilities to determine the average sound levels over a specified duration. For outdoor measurements, the microphone shall be equipped with a windscreen provided by or recommended by the sound level meter manufacturer. If necessary, the microphone shall be mounted on a tripod to maintain stability.
- (b) The sound level meter shall be field calibrated immediately before and after each measurement series and after any change in equipment conditions such as a battery replacement. Field calibration shall be conducted using a precision calibrator or piston phone and each calibration level shall be recorded. A change in calibration level exceeding +/- 1.0 dB may require that the measurement series be repeated.
- (c) The sound level meter equipment and calibrator shall have been laboratory calibrated within the 12 months prior to the testing. All equipment calibration certificates shall be available during the survey and copies shall be included with the final survey report.

## **7.2 Measurement Conditions**

- (a) During all operational sound level measurements, the Project should be operating under normal steady-state conditions. Normal conditions exclude start-up, shutdown, steam release, load transients, and all other abnormal or upset conditions. Any variation from the

rated load shall be noted. Equipment that is not required for normal facility operation shall not be operating during the surveys. All equipment enclosures shall be fully installed and all doors and openings shall be closed. All on-site maintenance and construction activities that could potentially affect the Project sound levels shall be minimized.

- (b) Outdoor sound level measurements shall not be conducted during adverse weather conditions or conditions which may damage the instrumentation. Measurements should be avoided during periods when the average wind speed exceeds 7 mph measured 5 feet above the ground or platform. Measurements during excessive wind speeds shall be noted on the data sheets. Measurements shall not be conducted during periods of precipitation or wet surface road conditions if such conditions increase the background noise. Weather conditions shall be noted on the measurement data sheets.

### **7.3 Property Boundary Sound Level Measurements**

- (a) Noise emissions testing shall be conducted along the plant property boundary. If local conditions such as background noise, accessibility, reflecting surfaces, screens, topographical conditions, or other restrictions preclude meaningful measurements at the measurement locations, alternate locations may be selected provided proper corrections are made in accordance with the referenced standards. The exact locations shall be determined prior to the testing and mutually agreed to by all parties involved. The background and operational measurements shall be taken at the same measurement locations. The microphone shall be positioned approximately 5 feet above the ground for all measurements.
- (b) The noise emissions testing shall include operational sound level measurements along the property boundary during normal operation of the Project. All non-Project noise sources that are audible during the measurement period shall be noted on the data sheets. The sound level survey shall include background sound level measurements at each operational measurement location during a period when the Project is completely shut down. The background sound level measurements shall be conducted during a period that experiences ambient conditions (such as from Phase 1) similar to the background conditions experienced during the operational measurements.
- (c) The sound level measurements shall include the A-weighted 90-percentile exceedance sound level, L90. The duration of the measurement period shall be a minimum of 5 minutes

or longer as deemed necessary to capture a representative sound level at the measurement location. All sound level measurements shall be recorded during a period of minimal background influence, i.e. between vehicle passes, aircraft flyovers, train passes, and other discrete non-facility sources. The measurement may be paused during such discrete noise sources if necessary to achieve the minimum measurement period.

- (d) Background sound level measurements shall be deemed unnecessary if the operational measurements, without any corrections for background noise, are equal to or less than the noise criteria defined in the Contract. Additionally, if representative background sound level measurements indicate that the background sound levels are at least 10 dB below the operational sound levels, the influence of the background noise shall be deemed negligible and further background sound level measurements shall not be necessary. If the measured background sound level is not at least 3 dB below the measured operational sound level, alternate measurements must be conducted. Alternate measurements shall include conducting measurements at locations closer to the Project (within the far-field) or during periods when the background noise is lower. The alternate measurements must provide background sound levels that are at least 3 dB lower than the operational sound levels. If the measured operational sound level does not exceed the measured background sound level by at least 3 dB and alternate measurements were not available as previously described, the operational sound level shall be deemed not to be contributing to the background. Thus, the Project sound pressure level shall be assumed to be 10 dB below the measured background level or equivalent to the noise criteria adjusted to the measurement location, whichever is lower.
- (e) The Project sound level at each measurement location shall be determined by correcting the measured operational sound level in accordance with the referenced standards to account for background noise, if necessary. Following the background correction, the Project sound level at all measurement locations that are not property boundary or residential boundary locations shall be corrected in accordance with the referenced standards for the distance to the corresponding compliance location. The Project sound levels at the compliance locations, after appropriate corrections, shall be compared to the Guaranteed Noise Emissions. Measurement uncertainties shall be applied in accordance with the referenced standards.

#### **7.4 In-Plant Sound Level Survey**

- (a) Survey locations shall be positioned along the equipment envelope of the major equipment packages. The microphone shall be positioned approximately 5 feet above the ground or personnel platform for all measurements. If the measured A-weighted sound pressure level exceeds 85 dBA, additional measurements shall be conducted at increasing distances from the equipment to identify the location of the 85 dBA sound pressure level contours/areas. Noise contributions and influences from non-Project related noise sources will be noted and qualified, as appropriate.
- (b) The sound level measurements shall include the A-weighted equivalent-continuous sound level, Leq. The duration of the measurement period shall be a minimum of 5 seconds or longer to capture a representative sound level. All areas that experience sound levels exceeding 85 dBA during normal operation shall be delineated on appropriate arrangement drawings.

#### **7.5 Indoor Sound Level Measurements**

- (a) Sound level measurements shall be taken at locations within the control room, offices, and conference rooms related to the Project. At a minimum, all positions where personnel are normally positioned will be included as measurement locations. The microphone shall be positioned 5 feet or 3.5 feet above the floor for locations where occupants are normally standing or sitting, respectively.
- (b) Sound level measurements shall be conducted at each measurement location during normal operation of the facility. The sound level measurements shall include the A-weighted 90-percentile exceedance sound level, L90. The duration of the measurement period shall be a minimum of 15 seconds or longer as deemed necessary to capture a representative sound level at the measurement location. The measurement may be paused during discrete noise events if necessary to achieve the minimum measurement period.
- (c) The operational measurements shall be recorded during a period of minimal background influence. Discrete noise events within the room such as people talking, people moving about, doors shutting, office equipment operating, phones ringing, radios playing, etc., shall be minimized. All doors and windows shall be closed and the ventilation system shall be

- (d) If necessary, background sound level measurements shall be conducted at each measurement location during a period when the Project is completely shut down. The background measurements shall be made during a period that experiences ambient conditions similar to the background conditions experienced during the operational measurements. Background sound level corrections shall be applied as specified in the referenced standards.
- (e) The average sound level within the space, after appropriate corrections, shall be compared to the guaranteed sound level to determine compliance. Measurement uncertainties shall be applied in accordance with the referenced standards.

## **7.6 Test Report**

- (a) A final noise emissions performance test report shall be submitted and shall include the following information. The final report shall include a list of all test equipment and the corresponding serial number(s) as well as copies of all laboratory calibration certificates. Additionally, the final report shall include the names of all personnel who conducted and witnessed the testing. Drawings shall be generated which show the location of each measurement and the measured sound level at that location. As appropriate, the drawings will delineate the extents of high noise areas where a sound level of 85 dBA is exceeded during normal operation.

**Section 8**  
**Factored Fired Hours & Factored Starts**

## **8.0 DEFINITION OF FACTORED FIRED HOURS AND FACTORED STARTS**

The value for Equivalent Base Hours and Equivalent Starts (or Factored Fired Hours and Factored Starts if General Electric equipment is utilized or Factored Operating Hours and Effective Starts if Mitsubishi equipment is utilized) shall be used for the calculation of Liquidated Damages as defined in the Liquidated Damages section of the Contract that may be incurred as a result of excessive Equivalent Base Hours and Equivalent Starts that occur during startup, commissioning and testing or as otherwise used in this Appendix.



## **Section 9**

### **Definition of Equivalent Degradation Hours & Degradation Curve**

## **9.0 Definition of Equivalent Degradation Hours:**

1. Performance is based on new and clean conditions. The Performance Test for each CTG must be conducted prior to the achievement of \_\_\_\_\_ (By Contractor) Factored Fired Hours by the CTG (the "New and Clean Period"). However, preliminary test runs may be conducted prior to the Performance Tests to determine if the equipment is in condition to undergo the test, to check instruments and methods of measurement, to check adequacy of organization and procedures and to train personnel.
2. If required by the Performance Test procedure, during New and Clean Period, the CTG's shall be started and taken to synchronous speed for a brief airflow test which will establish the CTG's New and Clean compressor performance.
3. If the Performance Test is conducted after the New and Clean Period, degradation factors for all Equivalent Degradation Hours past this New and Clean Period will be applied based on the CTG engine tests or the degradation curves provided by the combustion turbine manufacturer to the Contractor. For the purpose of determining the elapsed time from the New and Clean Period reference point for performance degradation, the Equivalent Degradation Hours for the equipment shall be determined from certified station logs and other pertinent station data using the Contractor/Manufacturer's calculation methodology.
4. The determination of Equivalent Degradation Hours shall match the CT Manufacturer's methodology for determining Equivalent Base Hours or Factored Fired Hours that the CT Manufacturer's would apply under its normal gas turbine maintenance program for the equipment being supplied.

**Section 11**

**Water Specification**

**(Water Quality Recommendations for Evaporative Coolers for Gas Turbine Applications)**

**(To be supplied by Contractor)**

**Section 12**  
**Correction Curves**

**(To be provided by Gas Turbine Supplier and Contractor as part of  
the Performance Test Procedure)**

**Section 13**  
**Guaranteed Average Equivalent Availability**

### 13.0 Guaranteed Average Equivalent Availability

A one-hundred sixty-eight (168) hours Average Equivalent Availability test will be performed with gas fuel in accordance with the Fuel Gas Specification set forth in Section 10 as a requirement of Final Acceptance. The test period will be a rolling window interval such that for successful completion of this test, the Average Equivalent Availability during the test run of one hundred sixty eight (168) consecutive hours must not be less than ninety-five percent (95%) ("Guaranteed Average Equivalent Availability").

The term "Average Equivalent Availability" is specifically defined as follows for the purposes of the test:

$$\text{Average Equivalent Availability (\%)} = \frac{A + B + C}{D} \times 100\%$$

Where:

A = Total number of hours that the Plant is available for dispatch or operated with the breakers closed to the station bus (including time required to start up and shut down the Plant) without a load restriction on the Plant imposed by Contractor or a failure of the Plant as covered in "C," below. Actual Plant load will be as determined by Owner.

B = The product of the number of hours that the Plant is available for dispatch or operated with the breakers closed to the station bus (including time required to start up and shut down the Plant) during which Contractor has imposed in writing a load restriction on the Plant multiplied by the percentage of load then allowed.

C = The product of the number of hours that the Plant is operated with the breakers closed to the station bus but is incapable of operating at base load or a lower dispatched load due to failure of Plant equipment in the scope of the Contractor multiplied by the percentage of base load or dispatched load which is actually achievable.

D = Total number of hours of the test period.

The Average Equivalent Availability of the Plant shall be calculated at the end of the test period. If the Average Equivalent Availability of the Plant is equal to or greater than respective the Guaranteed Average Equivalent Availability, the test shall be conclusively deemed successful. If the Average Equivalent Availability of the Plant is less than ninety-five percent (95%) in the test

but greater than or equal to ninety-three percent (93%), Contractor may either repeat the test or pay the liquidated damages in accordance with the Contract Terms & Conditions, Article 16 and this Appendix. In the event the Average Equivalent Availability Test is less than ninety-three percent (93%), Contractor shall take appropriate remedial action. Following such remedial action, the test shall be reinitiated and the Average Equivalent Availability will be re-calculated on a continuing basis.

### **13.1 Conditions Applicable to the Average Equivalent Availability Test**

- (a) Excluded are outage hours which are not under Contractor's control, including but not limited to those caused by low fuel gas supply pressure, grid frequency variations outside of the operating manuals and instruction manuals, operator error, equipment not supplied or installed under this Contract, acts of Owner or its agents or subcontractors, Force Majeure events, and Owner's failure to comply with its obligations under the conditions applicable to the tests and the general conditions of all warranties.
- (b) Contractor shall not be liable for outage hours arising from Owner's failure to adhere to the operating manual, instruction manual and other written operational recommendations of Contractor.
- (c) If the Plant is shut down or is derated due to any of the reasons listed above, the test will be interrupted for the duration of the shutdown or derating. When the test is restarted, the clock should be restarted at the number of hours achieved just before the shutdown or derating occurred. If such outages exceed 20 Days, the test will be deemed successfully complete.
- (d) The achievement of the specified Average Equivalent Availability is based upon the anticipated operating parameters of the Plant (e.g. duty cycle, fuel specification, etc.) specified in the Contract.
- (e) Owner shall maintain an operator log sheet, following a mutually agreeable format, indicating in detail performance parameters, cycles and maintenance actions. Owner shall report key performance parameters on a daily basis to Contractor. Contractor may inspect the operator log sheets. The Contractor, at its own expense, may provide a modem for the purpose of monitoring plant parameters during the tests. The Owner will provide a phone access line for this modem.

- (f) Contractor shall be entitled to have a field representative present during performance of the Average Equivalent Availability tests.

To the extent forced outage hours are accumulating due to remedial actions for which Contractor is not responsible for performing, Owner shall perform such remedial actions diligently within such periods of time not in excess of times considered reasonable in the industry for such remedial actions.



**Section 14**  
**Performance Liquidated Damages**

---

## 14.1 General

Liquidated damages will be calculated for performance which fails to achieve the Performance Guarantees (i.e. less than Guaranteed Net Capacity Unfired; less than Guaranteed Net Capacity Fired, greater than Guaranteed Net Heat Rate Unfired, greater than Guaranteed Net Heat Rate Fired). Liquidated Damage rates are provided in the Article 16 of the Contract.

## 14.2 Definitions

Final Test Value shall mean the measured Performance Test values which are corrected to the Base Reference Conditions set forth in Section 3.1 and adjusted for test tolerance all in accordance with the Performance Test procedures pursuant to Section 4 herein.

Test Tolerance ("TT") shall be 0.5% expressed as a decimal, applicable to the net capacity unfired, net capacity fired and 0.5% applicable to the net heat rate unfired and the net heat rate fired. The subscript letters "C", "IC", "HR" and "IHR", represent net capacity, incremental net capacity, net heat rate and incremental net heat rate respectively, in the following equations.

Ct = The Final Test Value of net capacity when the Plant is operating on Guarantee Fuel, in kilowatts.

ICt = The Final Test Value of incremental net capacity when the Plant is operating on Guarantee Fuel, in kilowatts.

HRt = The Final Test Value of net heat rate when the Plant is operating on Guarantee Fuel, in Btu/kWh, LHV.

IHRt = The Final Test Value of incremental net heat rate when the Plant is operating on Guarantee Fuel, in Btu/kWh, LHV

Cg= The Guaranteed Net Capacity when the Plant is operating on Guarantee Fuel (Note 1), in kilowatts.

ICg = The Guaranteed Incremental Net Capacity when the Plant is operating on Guarantee Fuel (Note 1), in kilowatts.

---

HRg= The Guaranteed Net Heat Rate when the Plant is operating on Guarantee Fuel (Note 1), in Btu/kWh, LHV.

IHRg =The Guaranteed Incremental Net Heat Rate when the Plant is operating on Guarantee Fuel (Note 1), in Btu/kWh, LHV.

Note 1: These values are the guaranteed values shown in Section 4.1 above.

#### **14.3 Calculation of Liquidated Damages Relative to Net Capacity**

$$( C_g - [C_t \times (1+TT_c)] ) \times GNCLD = A$$

The liquidated damage amount relative to net capacity shall equal the value of A if A is positive. If A is negative, no liquidated damages are applicable.

#### **14.4 Calculation of Liquidated Damages Relative to the Incremental Net Capacity**

$$( C_g - [I C_t \times (1+TT_c)] ) \times GNCLD = B$$

The liquidated damage amount relative to net capacity shall equal the value of B if B is positive. If B is negative, no liquidated damages are applicable.

#### **14.5 Calculation of Liquidated Damages Relative to Net Heat Rate**

$$( [ HR_t \times (1 - TTh_r)] - HR_g ) \times GNHRLD \times 1.1091 = C$$

The liquidated damage amount relative to net heat rate shall equal the value of C if C is positive. If C is negative, no liquidated damages are applicable.

#### **14.6 Calculation of Liquidated Damages Relative to the Incremental Net Heat Rate**

$$( [ IHR_t \times (1 - TTh_r)] - IHR_g ) \times GINHRLD \times 1.1091 = D$$

The liquidated damage amount relative to net heat rate shall equal the value of D if D is positive. If D is negative, no liquidated damages are applicable.

Appendix I

Progress Payment  
And  
Cancellation Schedule

**Seller to Supply**

## **APPENDIX J**

### **Change Order Costing**

## APPENDIX J CHANGE ORDER COSTING

1. Unless otherwise agreed between the Parties or in this Appendix J, pricing and payments for Change Orders shall be based on mutually agreeable terms and conditions which will be on a fixed price basis.

2. Sellers shall be compensated by Buyer only on a time and material basis in connection with (a) the APSA and (b) activities which are directed by Buyer and for which Buyer and Seller cannot agree upon a firm, fixed price, schedule adjustments or other terms and conditions. Such time and material work shall be based on the following costing procedure:

2.1 Seller's personnel shall be billed at the then current published field service rates and project home office rates attached to this Appendix J. Seller shall provide revised rate sheets within the first 30 days of each new year.

2.2 Buyer shall pay Seller a mark-up of six percent (6.0%) (the "Mark Up") on third-party purchases (including Contractor and Subcontractor purchases), including materials, rental of equipment, and labor (including: craft labor, Site construction management, Site supervision and commissioning, field engineering, Site administration).

2.3 Seller shall provide Buyer with a reasonable breakdown of costs and time to support compensation and/or adjustments to the Schedule and any other adjustments to the terms and conditions of the Agreement in connection with Change Orders performed on a time and material basis.

3. Seller shall be entitled to request adjustments to the Schedule and the Guaranteed Substantial Completion Date equal to the amount of time incurred by Seller in performing the Work taking into account adjustments to the Project or to the methods or sequence of performing the Work (all as determined by Buyer) that can be reasonably taken by Seller. For Change Orders which Seller request an adjustment to the schedule or Guaranteed Substantial Completion Date, Seller will provide adequate justification of how the change order impacts the critical path of the Project Schedule.

**Seller "Internal" Rates - 2011**

Project Manager:	\$XXX.XX per hour
Senior Engineer:	\$ XXX.XX per hour
Engineer:	\$ XXX.XX per hour
Drafter/Cad Operator:	\$ XX.XX per hour
Administrative support:	\$ XX.XX per hour
Travel expenses - at cost	

## **Contractor Rates - 2011**



Appendix K

(Reserved)

APPENDIX L  
FINAL WAIVER AND RELEASE OF LIEN

**APPENDIX L**  
**SELLER FINAL WAIVER AND RELEASE OF LIEN**

In consideration of the receipt by Seller of the final payment of \$\_\_\_\_\_ in immediately available funds from Buyer, Buyer shall be fully and completely released from all claims for payment for Work performed and materials provided under the Agreement, which the undersigned has or may have as Seller arising out of the Work performed by the undersigned, pursuant to the Agreement. The undersigned further acknowledges that such payment, together with all payments heretofore made constitutes full payment of all amounts due to the undersigned for Work performed and materials provided under the Agreement, including all amounts due for extra Work.

The undersigned further states and represents that all bills, payrolls, expenses, costs, payroll and other employee related taxes, claims and other indebtedness incurred in connection with the Work performed under the Agreement have been paid in full; and further agrees to defend Buyer from and against all claims against Buyer pursuant to Section 26.2 (“Title Indemnity and Liens”) of the Agreement for labor and material furnished by Contractor or any of its Subcontractors including liens of subcontractors, labors, and equipment and material suppliers arising from claims for payment for the Work performed under or in connection with the Agreement.

**Seller**

\_\_\_\_\_  
Name:

\_\_\_\_\_  
Title:

\_\_\_\_\_  
Date:

**Appendix L  
Release and Waiver of Liens and Claims**

**PARTIAL  
RELEASE AND WAIVER OF LIENS AND CLAIMS**

**KNOW ALL MEN BY THESE PRESENTS:**

WHEREAS, the undersigned \_\_\_\_\_ (the "Contractor"), by contract dated \_\_\_\_\_, (the "Contract") with PacifiCorp, (the "Owner") did furnish labor, equipment and/or materials utilized in connection with improvements to real property owned by Owner, which property and/or improvements are described or more commonly known as the Lake Side Block 2 (the "Project"), located in Utah County, Utah.

WHEREAS, Contractor has agreed upon a progress payment amount for certain work performed in connection with that portion of the Project described in Attachment 1 (the "Work") in the amount of \_\_\_\_\_ (\$ \_\_\_\_\_) for labor, equipment and/or materials furnished at or relating to the Project; and

WHEREAS, in consideration for Owner's release of payment to Contractor for the above described Work, Owner requires Contractor to release all liens and claims for payment for labor, equipment and/or materials arising out of work performed prior to and as part of that Work for which Contractor will be receiving payment of the above aforementioned amount, except for (i) claims for amounts withheld by Owner as Retainage; (ii) previously submitted Reserved Claims; and (iii) the following claims:

all of the foregoing, collectively "Reserved Claims").

NOW THEREFORE, this \_\_\_\_\_ day of \_\_\_\_\_ for and in consideration of all sums paid heretofore under the Contract and the sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) to be paid herewith pursuant to the terms of the Contract, the legal sufficiency of

which is hereby acknowledged, the undersigned, on behalf of itself and anyone acting or claiming through or under it, intending to be legally bound:

(a) acknowledges that, except for the Reserved Claims, it has been, or upon full payment of the aforementioned amount will be, paid in full for all labor, equipment, materials, services, fixtures, apparatus or machinery furnished or work performed for the Project at any time prior to, and including, the work performed for which Contractor will be receiving the above aforementioned payment (collectively the "Furnished Work"), and

(b) does hereby conditioned upon payment of the aforementioned amount, but otherwise unconditionally and without reservation waive, release, remise and relinquish, except for the Reserved Claims, any and all actions, demands, debts, counterclaims, set-offs, claims and any liability whatsoever relating to the payment of the above aforementioned amounts or any event or circumstance that would constitute a Change In Work (as defined in the Contract), including without limitation claims for disputed work, extra work, impact costs, inefficiency or delay, whether known or unknown, whether accrued or unaccrued, arising out of or related, directly or indirectly, to the Furnished Work, the Contract or the Project as of [Insert date of Invoice/Lien Waiver signature], which it ever had or may now have against the Owner, the Owner's lender (if any), and their officers, agents, attorneys, employees, successors and assigns, or any labor or material payment bond (if any) furnished in connection with the Project, and

(c) on behalf of itself and anyone acting or claiming through or under it and upon receipt of payment from Owner, hereby waives and releases, except for the Reserved Claims, any mechanics', materialman's or similar liens or stop notices and all rights to file any such liens or notices in the future against the Project and on the monies or other consideration due for the Furnished Work, and agrees to defend, indemnify and hold harmless the Owner from and against any and all costs and expenses (including reasonable attorney fees and costs) resulting from any such claim or lien.

(c)

\_\_\_\_\_

(Date)

\_\_\_\_\_

(Signature)

STATE OF \_\_\_\_\_ )

) ss:

COUNTY OF \_\_\_\_\_ )

On the \_\_\_\_\_ day of \_\_\_\_\_, before me personally came \_\_\_\_\_;  
to me known, who being by me duly sworn, did depose and say that he/she resides at  
\_\_\_\_\_; that he/she is \_\_\_\_\_ (title)  
of \_\_\_\_\_, the [corporation] that executed the foregoing  
instrument and that he/she signed his or her name thereto with full authority to do so.

\_\_\_\_\_

(Signature)

Attachment 1

The "Work"

**H-2**

**(Subcontractor Form)**

**PARTIAL  
RELEASE AND WAIVER OF LIENS AND CLAIMS**

**KNOW ALL MEN BY THESE PRESENTS:**

WHEREAS, the undersigned \_\_\_\_\_ (the "Subcontractor"), by contract dated \_\_\_\_\_, (the "Contract") with \_\_\_\_\_, (the "Contractor") did furnish labor, equipment and/or materials utilized in connection with improvements to real property owned by PacifiCorp ("Owner"), which property and/or improvements are described or more commonly known as the Lake Side Block 2 (the "Project"), located in Utah County, Utah.

WHEREAS, Subcontractor has agreed upon a payment amount for certain work performed in connection with that portion of the Project described in Attachment 1 (the "Work") in the amount of \_\_\_\_\_ (\$ \_\_\_\_\_) for labor, equipment and/or materials furnished at or relating to the Project; and

WHEREAS, in consideration for Contractor's release of payment to Subcontractor for the above described Work, Contractor requires Subcontractor to release all liens and claims which Subcontractor ever had or may now have arising out of work performed prior to and as part of that work for which Subcontractor will be receiving payment in accordance with the Contract, except for (i) claims for amounts withheld by Contractor as retainage and (ii) the following claims:

(all of the foregoing, collectively the "Reserved Claims").

NOW THEREFORE, this \_\_\_\_ day of \_\_\_\_\_ for and in consideration of all sums paid heretofore under the Contract and the sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) to be paid in accordance with the terms of the Contract, the legal sufficiency of which is hereby acknowledged, the undersigned, on behalf of itself and anyone acting or claiming



through or under it, intending to be legally bound:

- (a) acknowledges that, except for the Reserved Claims, it has been, or upon full payment of the aforementioned amount will be, paid in full for all labor, equipment, materials, services, fixtures, apparatus or machinery furnished or work performed for the Project at any time prior to, and including, the work performed for which Subcontractor is receiving the aforementioned payment (collectively the "Furnished Work"), and
- (b) does hereby conditioned upon payment of the aforementioned amount, but otherwise unconditionally and without reservation, waive, release, remise and relinquish, except for the Reserved Claims, any and all actions, demands, debts, counterclaims, set-offs, claims and any liability whatsoever relating to the payment of the aforementioned amount, including without limitation claims for disputed work, extra work, impact costs, inefficiency or delay, whether known or unknown, whether accrued or unaccrued, arising out of or related, directly or indirectly, to the Furnished Work, the Contract or the Project as of [Insert date of Invoice/Lien Waiver signature], which it ever had or may now have against the Contractor, Owner, the Owner's lender (if any), and their officers, agents, attorneys, employees, successors and assigns, or any labor or material payment bond (if any) furnished in connection with the Project, and
- (c) on behalf of itself and anyone acting or claiming through or under it, hereby waives and releases, except for the Reserved Claims, any mechanics', materialman's or similar liens or stop notices and all rights to file any such liens or notices in the future against the Project and on the monies or other consideration due or to become due for the Furnished Work, and agrees to defend, indemnify and hold harmless the Contractor and Owner from and against any and all costs and expenses (including reasonable attorney fees and costs) resulting from any such claim or lien.

(Date)

(Signature)

STATE OF \_\_\_\_\_ )

) ss:

COUNTY OF \_\_\_\_\_ )

On the \_\_\_\_\_ day of \_\_\_\_\_, before me personally came \_\_\_\_\_;  
to me known, who being by me duly sworn, did depose and say that he/she resides at  
\_\_\_\_\_; that he/she is \_\_\_\_\_ (title)  
of \_\_\_\_\_, the [corporation] that executed the foregoing  
instrument and that he/she signed his or her name thereto with full authority to do so.

\_\_\_\_\_  
(Signature)

**Attachment 1**

The "Work"

**Exhibit H-3  
(Contractor Form)**

**FINAL  
RELEASE AND WAIVER OF LIENS AND CLAIMS**

**KNOW ALL MEN BY THESE PRESENTS:**

WHEREAS, the undersigned \_\_\_\_\_ (the "Contractor"), by contract dated \_\_\_\_\_ (the "Contract"), with PacifiCorp ("Owner"), did furnish labor, equipment and/or materials utilized in connection with improvements to real property owned by Owner, which property and/or improvements are described or more commonly known as the Lake Side Block 2 (the "Project"), located in Utah County, Utah.

NOW THEREFORE, this \_\_\_\_\_ day of \_\_\_\_\_, for and in consideration of all sums paid heretofore under the \_\_\_\_\_ Contract and the sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) the legal sufficiency of which is hereby acknowledged, the undersigned, on behalf of itself and anyone acting or claiming through or under it, and intending to be legally bound:

(a) acknowledges that, except for the claims expressly set forth in Attachment 1 and for which Contractor has delivered a dispute Notice (the "Reserved Claims"), it has been, or upon full payment of the aforementioned amount will be, paid in full for all labor, services, materials, fixtures, equipment, apparatus or machinery furnished or work performed for the Project (collectively the "Work") and,

(b) does hereby, conditioned upon payment of the aforementioned amount, but otherwise unconditionally and without reservation, waive, release, remise and relinquish, except for the Reserved Claims, any and all actions, demands, debts, counterclaims, set-offs, claims and any liability whatsoever relating to the payment of the Contract Price (as defined in the Contract) or any event or circumstance that would constitute a Change In Work Event (as defined in the Contract) in respect of any Work, including without limitation claims for disputed work, extra work, impact costs, inefficiency or delay, whether known or unknown, whether accrued or unaccrued, arising out of or related, directly or indirectly, to the Work, the Contract or the Project

which it ever had or may now have against the Owner, the Owner's lender (if any), and their officers, agents, attorneys, employees, successors and assigns, or any labor or material payment bond (if any) furnished in connection with the Project, and

(c) on behalf of itself and anyone acting or claiming through or under it, hereby waives and releases, except for the Reserved Claims, any mechanic's, materialman's or similar liens or stop notices and all rights to file any such liens or notices in the future against the Project and on the monies or other consideration due or to become due from the Owner for the Work, and agrees to defend, indemnify and hold harmless the Owner from and against any and all costs and expenses (including reasonable attorney fees and costs) resulting from any such claim or lien.

\_\_\_\_\_

(Contractor)

\_\_\_\_\_

(Date)

\_\_\_\_\_

(Signature)

Title: \_\_\_\_\_

STATE OF )

) ss:

COUNTY OF )

On the \_\_\_\_\_ day of \_\_\_\_\_, before me personally came \_\_\_\_\_; to me known, who being by me duly sworn, did depose and say that he/she resides at \_\_\_\_\_; that he/she is \_\_\_\_\_ (title) of \_\_\_\_\_, the [corporation] that executed the foregoing instrument and that he/she signed his or her name thereto with full authority to do so.

\_\_\_\_\_

(Signature)

**Attachment 1**

**Claims**

**H-4**  
**(Subcontractor Form)**  
**FINAL**  
**RELEASE AND WAIVER OF LIENS AND CLAIMS**

**KNOW ALL MEN BY THESE PRESENTS:**

WHEREAS, the undersigned \_\_\_\_\_ (the "Subcontractor"), by contract dated \_\_\_\_\_ (the "Contract"), with \_\_\_\_\_ ("Contractor"), did furnish labor, equipment and/or materials utilized in connection with improvements to real property owned by PacifiCorp ("Owner"), which property and/or improvements are described or more commonly known as the Lake Side Block 2 (the "Project"), located in Utah County, Utah.

NOW THEREFORE, this \_\_\_\_\_ day of \_\_\_\_\_, for and in consideration of all \_\_\_\_\_ sums paid heretofore under the Contract and the \_\_\_\_\_ sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_), the legal sufficiency of which is hereby acknowledged, the undersigned, on behalf of itself and anyone acting or claiming through or under it, and intending to be legally bound:

- (a) acknowledges that, except for the claims expressly set forth in Attachment 1 (the "Reserved Claims"), it has been, or upon full payment of the aforementioned amount will be, paid in full for all labor, services, materials, fixtures, equipment, apparatus or machinery furnished or work performed for the Project (collectively the "Work"), and
- (b) does hereby conditioned upon payment of the aforementioned amount, but otherwise unconditionally and without reservation waive, release, remise and relinquish, except for the Reserved Claims, any and all actions, demands, debts, counterclaims, set-offs, claims and any liability whatsoever relating to the right to the payment under the Contract, including without limitation claims for disputed work, extra work, impact costs, inefficiency or delay, whether known or unknown, whether accrued or unaccrued, arising out of or related, directly or indirectly, to the Work, the Contract or the Project which it ever had or may now have against





Attachment 1

Claims

Appendix M

Project Water Rights  
and  
Emissions Reductions Credits

**Seller to Supply If Applicable**

## Appendix N

### Pre-Existing Regulated Materials

**To be provided upon identification of Site**

---

Appendix O

(Reserved)

Appendix P

(Reserved)

**APPENDIX Q**  
**APPROVED VENDORS LIST**

## **APPENDIX Q**

### **APPROVED VENDORS LIST**

## Approved Vendors List

Equipment / Construction Package	Approved Subcontractors / Equipment Suppliers
Combustion Turbines	General Electric 7FA.05 (Existing combustion turbines are GE7241FA), Siemens SGT6-5000F Mitsubishi M501GAC
Steam Turbine	Toshiba GE Mitsubishi Siemens Alstom
Generator for Steam Turbine	Toshiba General Electric Mitsubishi Siemens Alstom
Turbine Supervisory Instrumentation Unit	<b>Bently Nevada – PacifiCorp Standard</b>
Position Switch	Namco Co.
Position Transmitter	M-System <b>Fisher-Rosemount - Preferred</b>  Foxboro Yokogawa Dresser Measurement & Control ABB
Flow Indicator	Yokogawa Electric Co.
Purity Analyser	<b>Yokogawa - PacifiCorp Standard</b>
Solenoid Valve	Asco, Co.
Positioner	Fisher Co.
Instrument Valve	<b>Swagelok, Co. - Preferred</b> <b>Whitey Co. – Preferred Valves</b>
Instrument Fittings	<b>Swagelok, Co. - Preferred</b> Whitney Co.
Control Valve	<b>CCI (Feedwater) – Preferred</b> Fisher Co.  Valtek Masoneilan ABB
I/P Converter	Yokogawa
Generator Condition Monitor	<b>E-One, GCMX – PacifiCorp Standard</b>
Instrument Rack / Generator	<b>E-One – PacifiCorp Standard</b>
Seal Oil Gauge Panel	<b>E-One – PacifiCorp Standard</b>
Hydrogen Gas Measuring Rack	<b>E-One – PacifiCorp Standard</b>
H2 Gas Dryer	LectroDryer



<b>Equipment / Construction Package</b>	<b>Approved Subcontractors / Equipment Suppliers</b>
Combined Main Stop and Control Valve / Actuator	Rexroth
Combined Reheat Valve Actuator	Rexroth
Gland Steam Condenser	Southern Heat Exchanger ITT Industries Struthers Industries Krueger Engineering & Mfg. Co. Thermal Engineering International Yuba GEA SPX
Gland Steam Exhauster	Gardner Denver The New York Blower Co. Chicago Blower Co. or Equivalent Toshiba
Main Oil Cooler	Tranter PHE Southern Heat Exchanger ITT Industries GEA Ecoflex <b>Alfa Laval (Plate &amp; Frame) - Preferred</b>
Oil Conditioner	Kaydon - Preferred TORE Alfa Laval
Oil Mist Eliminator	Burgess-Miura Co. Koch-Otto York
HRSGs	Nooter/Ericksen Vogt Power Alstom NEM CMI
HRSG Duct Burners	<b>Forney – Preferred</b> Coen John Zink
SCR and CO Systems	Peerless Mfg. Hitachi Vector MHI
SCR Catalyst	Cormetech Argillon (formerly Siemens) Haldor Topsoe
HRSG Stack Damper Actuator	<b>Limitorque – Preferred</b> Rotork Siemens
CO Catalyst	BASF Catalysts - Preferred EmeraChem

Equipment / Construction Package	Approved Subcontractors / Equipment Suppliers
Auxiliary Boiler	<b>Nebraska - Preferred</b> Babcock & Wilcox Cleaver Brooks Indeck Rentech Victory Energy
Boiler Feed Pumps and Motors	Ebara Flowserve <b>KSB, Inc. – Preferred</b> Sulzer Pumps
Condensate Pumps and Motors	Ebara Flowserve ITT Goulds Pumps Johnston Pump Company KSB Sulzer Pumps Weir Pump Company
Component Cooling Water Heat Exchanger (fin fan)	GEA Rainey SPX
Condenser, Air Cooled (ACC)	SPX (Marley) GEA
Heat Exchangers, Plate & Frame	<b>Alfa Laval– Preferred</b> APV Graham ITT Standard Paul Mueller Tranter
Water Treatment Systems (Demin)	Hungerford & Terry, Inc. Ecodyne GE Water Technologies Graver Water Co. Infilco Degremont US Filter Water and Power Technologies (Degremont) Ovivo
Condensate Filter	<b>Cuno - Preferred</b>
Oil Water Separators	<b>PS International – Preferred</b> Anderson Great Lakes Environmental Highland Tank

Equipment / Construction Package	Approved Subcontractors / Equipment Suppliers
Air Compressors	<b>Gardner Denver - Preferred</b> Atlas Copco Cameron Cooper/Joy Industries Dresser Elliot Ingersoll Rand Sullair UE Compression
Air Dryers	<b>Atlas Copco – Preferred</b> Deltech Gardner Denver Hankison Ingersoll Rand Kemp Pneumatic Productions corporation Sullair Van Air Systems
Fuel Gas Treatment	Anderson Separator/Clark Reliance/National Burgess Manning Exterran Filtration Flowtronex Gas Packagers GTS Energy Hanover Smith Oil & Gas Systems PECO Peerless Pipeline Equipment Texas Systems Total Energy Resources Tran-Am System International Universal Compressors
Miscellaneous Horizontal Pumps	<b>ITT Goulds Pumps - Preferred</b> Aurora Pumps Flowserve Johnston KSB Peerless Sulzer
Pumps, Vertical	Aurora Pumps ITT Goulds Pumps Flowserve <b>Johnston -Preferred</b>

Equipment / Construction Package	Approved Subcontractors / Equipment Suppliers
Vacuum Pumps	<b>Nash - Preferred</b> Gardner Denver Graham Manufacturing Nitech
Sump Pumps (Submersible)	Aurora Pumps Flowserve ITT Flygt ITT Goulds Johnston Pumps KSB Nagle Warman
Pumps, Fire Water	<b>Fairbanks Morse – Preferred</b> Aurora Pumps ITT A-C Pump Peerless
Steam Conditioning Valves (attemporators)	CCI Drag Emerson Process Management Flowserve Copes Vulcan
Fire Protection System	<b>Delta Fire Protection – Salt Lake City - Preferred</b> American Fire Technologies Dooley Tackaberry F.E. Moran International Fire Protection McDaniel Fire System S&S Sprinkler Securiplex Shambaugh & Son Simplex Grinnell VFP Fire Systems

Equipment / Construction Package	Approved Subcontractors / Equipment Suppliers
GSU Transformers and Unit Auxiliary Transformers	ABB all voltages – Ludvika, Sweden ABB all voltages – Cordoba, Spain ABB all voltages – Varennes, Quebec – Canada ABB up to 230 kV – StLouis, Missouri ABB 14 MVA and below – South Boston, Virginia ABB-Kulman up to 138 kV – Crystal Springs (near Jackson), Mississippi EFSEEC all voltages – Porto, Portugal General Electric-Prolec all voltages – Monterrey, Mexico HICO all voltages – Changwon, South Korea HYUNDAI all voltages – Ulsan, South Korea MEPPi -Mitsubshi Electric all voltages – Ako City, Japan Pennsylvania Transformer up to 345 kV – Canonburg, Pennsylvania Siemens all voltages – Weiz, Austria Siemens all voltages – Jundiai', Brazil Siemens all voltages – Nuremberg, Germany Siemens up to 230 kV – Guanajuato, Mexico Smit all voltages – Nijmegen, Netherlands TBEA all voltages – Shenyang, China Toshiba up to 230 kV – Belo Horizonte, Brazil Waukesha up to 230 kV – Waukesha, Wisconsin
Switchgear	<b>GE – Preferred 4160V</b> <b>Square D – Preferred 480V</b> Eaton/Cutler-Hammer – 4160V and 480V Powell (Only if part of package) Siemens ABB Alstom Mitsubishi Hitachi
Motor Control Centers	<b>Allen Bradley – Preferred for 480V MCC, 4160V MCC</b> <b>Eaton/Cutler-Hammer – Preferred for 480V MCC, 4160V MCC</b> ABB Alstom GE Powell (Only if part of package) Siemens Square D

Equipment / Construction Package	Approved Subcontractors / Equipment Suppliers
Medium Voltage Motors	ABB Inc. General Electric Hitachi Hyundai Marathon Motors Reliance Siemens TECO-Westinghouse WEG
Low Voltage Induction Motors	ABB Baldor/Reliance General Electric Siemens TECO-Westinghouse Toshiba U.S. Motors
Variable Frequency Drives	ABB Allen-Bradley Cutler-Hammer Danfoss General Electric Mitsubishi Safronics Siemens
Isolated Phase Bus Duct	<b>Delta-Unibus – Preferred</b> <b>GE Canada - Preferred</b> ABB Calvert Emform Hitachi JES Engineering Simelectro
Non Segregated Phase Duct	<b>Delta-Unibus – Preferred</b> <b>Powell - Preferred</b> ABB Calvert Square D Technibus

Equipment / Construction Package	Approved Subcontractors / Equipment Suppliers
Power Control and Instrumentation Cables	<b>Belden – Communication Cable - Preferred</b> <b>Okonite - Preferred</b> <b>Southwire - Preferred</b> Anixter BICC Dekoron Draka Cableteq Furon/Dekoron Kerite Pirelli Rockbestos Supernaut Rome Southwire Tamaqua
High and Medium Voltage Cable	<b>Okonite - Preferred</b> Anixton Kerite Pirelli Rome Southwire
Distributed Control System	<b>Emerson Ovation – PacifiCorp Standard for Currant Creek Plant</b>
Continuous Emissions Monitoring System	<b>Environmental Systems Corporation (ECS) DAHS Software; and PacifiCorp specified instruments – PacifiCorp Standard</b> Thermo-Fisher Scientific 42i-NOx Thermo-Fisher Scientific 48i-CO Servomex 1440-Oxygen
UPS-DC Inverters/Chargers	<b>Ametek - Preferred</b>
Station Batteries (VRLA)	GNB East Penn (DEKA) Douglas
Chemical Feed Systems	<b>Milton Roy/(Not LMI product line) – Preferred</b> GENalco Neptune Prominent Pulsafeeder Sentry Equipment
Water Sample Panel	Delphi Control Systems Sentry Equipment Corp. Waters Equipment Co. Johnson March
<b>Instrumentation Analytical Measurements</b>	

<b>Equipment / Construction Package</b>	<b>Approved Subcontractors / Equipment Suppliers</b>
Chromatographs	ABB Daniel (Natural Gas) EG&G Emerson Process Management Rosemount
Conductivity	<b>Yokogawa – PacifiCorp Standard</b>
Oxygen	Orbisphere Hach Swan Analytical Yokogawa
Silica	<b>Hach – PacifiCorp Standard</b>
pH Probe	<b>Yokogawa – PacifiCorp Standard</b>
Vibration	<b>Bentley Nevada – PacifiCorp Standard</b>
Computers (Flow)	<b>Daniel - Preferred</b> Omni Fisher
Controllers, Field Mounted, Pneumatic	Fisher Masoneilan
Flame Supervisory Systems	Fireye Forney Honeywell Allen Bradley Iris
Indicating Manometers	<b>Dwyer – preferred</b> Meriam
Indicators Press/Receiver Gauge	<b>Ashcroft – preferred</b> Weksler Wika
Programmable Logic Controllers	<b>Allen Bradley - PacifiCorp Standard Control Logix, Micrologix or SLC 500 (Ethernet Version)</b>
<b>Transmitters, Electronic</b>	
Differential Pressure	<b>Rosemount Model 3051 (or approved equivalent) - PacifiCorp Standard</b> ABB Dresser Measurement & Control Foxboro Yokogawa
<b>Level Measurement</b>	
Capacitance, Etc.	AMETEK Drexelbrook Fisher
Displacement	Fisher Magnetrol
Process Radar	<b>Rosemount - Preferred</b> Ohmart-Vega
Custody Transfer/Radar/Displacement	Enraf Saab



<b>Equipment / Construction Package</b>	<b>Approved Subcontractors / Equipment Suppliers</b>
Radioactive	Kay-Ray Ohmart-Vega Texas Nuclear
Ultrasonic	<b>Milltronics – preferred</b> Endress & Hauser Inc. Kistler Morse Magnetrol Panametrics
TDR	<b>Rosemount – preferred</b> Magnetrol
Magnetic Flow	<b>Rosemount – preferred</b> Endress & Hauser
Mass Flow	<b>Rosemount – preferred</b> Fisher ABB/Bailey
Pressure	<b>Rosemount Model 3501 (or approved equal)– preferred</b> Foxboro Honeywell Yokogawa
Target Meter	<b>Hersey Measurement – preferred</b> Foxboro
Temperature	<b>Fisher-Rosemount – preferred</b> Foxboro Honeywell Moore Industries Yokogawa
Turbine	Daniel Foxboro
<b>Transmitters, Pneumatic</b>	
Differential Pressure	<b>Fisher – preferred</b>
Level Displacement	Fisher Magnetrol
Pressure	Fisher Foxboro
Target Meter	Foxboro
Temperature	Fisher-Rosemount Foxboro
UPS	Best SCI
<b>Valves and Regulators</b>	
Actuators, Diaphragm	<b>Fisher – PacifiCorp Standard</b> Masoneilan Valtek

Equipment / Construction Package	Approved Subcontractors / Equipment Suppliers
Actuators, Piston	Contromatics Emerson Bettis Flowserve Automax Flowserve Valtek George-Fischer Hills-MC Canna Jamesbury Vanton Whitey XACT
Control Valves – ON/OFF or Throttling Ball	<b>Fisher – preferred</b> ABB Atwood & Morrill (E) Cameron WKM Flowserve Jamesbury Masoneilan SPX Copes Vulcan TYCO (E) Valtek Valve Technologies Velan Watts
Positioners, Electric	<b>Limitorque, MX – Preferred</b> Fisher-Rosemount
Butterfly/ECC Disk	AMRI Continental Fisher-Rosemount Flowserve Durco Masoneilan Neles-Jamesbury Valtek
Valves, Butterfly <24-inch	Bray Valves & Controls Dezurik Flowseal Henry Pratt Co. Jamesbury Keystone Valve KSB-AMRI

Equipment / Construction Package	Approved Subcontractors / Equipment Suppliers
Valves, Butterfly >24-inch	<b>Dezurik - Preferred</b> Atwood & Morrill Centerline Crane Flowseal Grinnell Corp. Henry Pratt Co. Keystone Valve \ Posiseal Vanessa (Tyco) Watts
Valves, Globe	Atwood & Morrill Edwards Newco Valves Pacific Valves Whitey Yarway
Valves, Cast Steel	Atwood & Morrill Crane Edwards Pacific Valves Tyco Velan Valve Co. WM Powell Co.
Control Valves, Severe Duty, (Bypass, Recirculation, Drum level control, ACC spargers)	<b>CCI Drag – PacifiCorp Standard (Steam bypass valves shall be CCI Drag technology valves, not BTG)</b> Copes-Vulcan
Control Valves, Severe Duty, Boiler Feed Pump Recirculation Control Valve	<b>Copes-Vulcan Multi-stage HUSH</b>
Valves, Forged Steel	Bonney Forge Conbraco Conval, Inc. Crane Dresser Industrial Valve Edwards Valves, Inc. Flowserve VogtNewco Velan Valve Corp Wm. Powell Company Yarway

Equipment / Construction Package	Approved Subcontractors / Equipment Suppliers
Valves, High Pressure	Atwood & Morrill Crane Edwards Pacific Valves Tyco Velan Valve Co. Wm. Powell Company Newco Tong Yung Valve technologies
Valves, Knife-gate	Clarkson Dezurik Newcon Warman
Valves, Check	APCO Crane Edward Valves Pacific Valves Stockham Valves & Fittings Yarway/Tyco
Globe / Cage (No Split Body) 300#	<b>Fisher - Preferred</b> Collins Instrument (Plastic) Control Component, Inc. (CCI) Masoneilan Samson Valke
Miniature / Special	Collins Instrument Research Controls Whitey
Solenoid Valves	ASCO
Pinch, Weir, Diaphragm	<b>Fisher-Rosemount - Preferred</b> ASAHI Emerson Grinnell Red Valve RKL
Plug	Durco Tufline
Regulators	<b>Emerson Fisher-Rosemount - Preferred</b> Air Service Cashco Emerson Process Service
Strainers, Automatic Flushing	Fluid Engineering Hayward Strainers Hellan SP Kinney Engineers

<b>Equipment / Construction Package</b>	<b>Approved Subcontractors / Equipment Suppliers</b>
Valves, Ball	Apollo Cooper Cameron Dresser ITT Engineered Valves Mogas Neles Jamesbury NIBCO, Inc Stockham Valves & Fittings Valve Technologies Whitey
Relief or Safety Valves	<b>Dresser Consolidated – PacifiCorp Standard for Steam Service</b> Anderson Greenwood/Crosby (Tyco) Ferris
<b>Installation Hardware</b>	
Boxes or Cabinets – Instrument and Junctions Metal	<b>Hoffman – preferred</b> Appleton
Boxes or Cabinets – Instrument and Junctions Fiberglass or Plastic	<b>Hoffman – preferred</b> Stahlin
Cable Tray and Tubing Support Tray Metal	B-Line OBO Betterman PW James C. White Co., Inc.
Cable Tray and Tubing Support Tray Nonmetallic	Enduro Fibergrate Seagate Stahlin Channel Way James C. White Co., Inc.
Instrument Manifolds and Valving Assemblies	<b>Rosemount – Preferred</b> Anderson Greenwood/Crosby (Tyco) PGI
Tubing Metal	Dekoron Thermoelectric
Tubing NonMetallic	Dekoron Thermoelectric
Fittings (Compression) Metal	<b>Swagelok – Preferred</b> Gyrolok
Fittings (Compression) Non-metallic	JACO (Kynar)
Fittings (Compression) Valves, Metal	<b>Whitey – Preferred</b> Anderson Greenwood/Crosby Hoke PGI
Wire Signal	Alpha Belden Dekoron
Wire Thermocouple	Dekoron
<b>Other</b>	

Equipment / Construction Package	Approved Subcontractors / Equipment Suppliers
Expansion Joints	Bachmann Industries Effox Pathway Wahlco Engineered Products KE Burgmann
Fluid Couplings	Voith
Pipe, Fabricated LP	Bendtec McAbee Construction Scott Process Team Industries Turner (International Piping Systems)
Pipe, Supports	Lisega Bergen PTP Froneck
Tanks, Field Erected	Advance Tank and Construction American Tank & Vessel, Inc. Brown-MN CBI Chatanooga Tank Columbian Tank Fisher Tank HMT, Inc Matrix Mountain States Paso Robles Tank, Inc Pittsburgh Tank PSF Industries Rocky Mtn. Fab Salt Creek Welding
Tanks, Shop Fabricated	Arrow Tanks Brown-MN CBI Chatanooga Tank Dixie Southern Eaton Highland Tanks Modern Welding Palmer Paso Robles Tank, Inc PSF Industries Rocky Mtn. Fab Salt Creek Welding
Protective Relaying Devices and Systems	<b>Schweitzer Engineering Labs, Inc.300 Series – PacifiCorp Standard</b>
Lockout Relays	<b>Electroswitch – PacifiCorp Standard</b>
Test Switches	<b>ABB – Preferred States</b>

<b>Equipment / Construction Package</b>	<b>Approved Subcontractors / Equipment Suppliers</b>
Revenue Meters	<b>Landis &amp; Gyr Elite – (or most recent Landis &amp; Gyr replacement – Advanced approval required) - PacifiCorp Standard</b>
Revenue Current Transformer/Voltage Transformer	<b>Alstom Model KOTEF 362-ER- Preferred</b>
<b>Switchyard Work Approved Engineering Companies</b>	<p>Power Engineers  Contact: Don Evans  Tel: 503-244-9321  E-Mail – <a href="mailto:devans@powereng.com">devans@powereng.com</a></p> <p>Burns &amp; McDonnell  Contact: Justin Sherman  Tel: 303-474-2235  E-Mail – <a href="mailto:jsherman@burnsmcd.com">jsherman@burnsmcd.com</a></p> <p>Dashiell  Contact: Adam Brown  Tel: 713-558-6732  E-Mail – <a href="mailto:adam.brown@dashiell.com">adam.brown@dashiell.com</a></p> <p>Stanley  Contact: Ken Moriarty  Tel: 303-925-8248  E-Mail – <a href="mailto:moriartyken@stanleygroup.com">moriartyken@stanleygroup.com</a></p> <p>ECI  Contact: Bruce LaMeres  Tel: 801-292-9954  E-Mail – <a href="mailto:bruce.lameres@ecisl.com">bruce.lameres@ecisl.com</a></p> <p>HDR  Contact: Paul Campell  Tel: 503-423-3879  E-Mail – <a href="mailto:paul.capell@hdrinc.com">paul.capell@hdrinc.com</a></p>
<b>Switchyard Equipment</b>	
Air Switches, Group Operated, Spec ZS 050	Pascor/Pascor Atlantic Royal Switchgear Southern States Turner Electric Areva USCO
Air Switches, Hookstick Operated	Royal Switchgear Southern States Turner Electric S&C Electric USCO
Air Switches, SF6 Bottles	Southern States

Equipment / Construction Package	Approved Subcontractors / Equipment Suppliers
Air Switches, regulator Bypass 1200 A or less	Bridges Electric Kearney Morpak Royal Switchgear S&C Electric Southern States USCO Turner Electric
Air Switches, Regulator Bypass, 2000A	Cleveland Price Morpak
Air Switches, Vacuum Bottles	Turner Electric Joslyn Royal Switchgear
Batteries, ZS 018	Alcad C&D Energys
Breakers, 345kV and above, ZS 013	ABB T&D HVB Mitsubishi HICO
Control Buildings	CellXion Buildings Parkline Trachte
Switchyard Steel	Continental Steel – Magna Great basin Steel – Riverton MD Henry – Birmingham Pioneer Trailer - Portland



# Appendix R

## Price Options

**APPENDIX S**

**RESERVED**

# Appendix T

## Witness Point Schedule

## APPENDIX T

### WITNESS POINT SCHEDULE

In accordance with Section 14.3 of the Agreement, Seller shall provide Buyer and Buyer's Representative with at least fourteen (14) days' advance notice of the following pre-mechanical completion shop operations:

1. Combustion and Steam Turbine/Generators
  - a. Overspeed test and vibration measurement on bladed combustion turbine rotors and on bladed HP, IP and LP steam turbine rotors
  - b. Check key clearances during CT & ST manufacture as defined in the [OEM] Project Inspection & Test Shop Program
  - c. Inspect CT & ST generator stator casings prior to welding and brazing operations if such operations are still outstanding
  - d. Insulation tests, field rotation tests & HV tests on generator stators
  - e. Overspeed test, vibration measurement, insulation resistance measurement & HV test on generator rotor assemblies
    - i. 120% over-speed test during high speed balance (new field). Used field at 110%. High speed balance conducted at 3600 rpm.
  - f. Check key clearances during assembly of generators as defined in the [OEM] Project Inspection & Test Shop Program
  - g. Hydrostatic tests on HP & IP steam turbine casings and live steam valves
2. For Transformers
  - a. Winding Inspection and core inspection (before windings are nested and before windings are installed on the core).
  - b. Pre-tanking inspection, and the tanking of the core-and-coil assembly.
  - c. Testing
  - d. Final Inspection before shipment.