

APPENDIX B

APPROVED VENDORS LIST

The following document provides a list of approved Vendors for plant materials and equipment. In many categories, a Vendor has been identified as "Preferred" in order to maintain the same Vendors of equipment as Currant Creek 2 or because PacifiCorp has utilized the equipment supplier for its generating fleet and has had favorable experiences.

The basis for the plant design should generally be the "Preferred" Vendors in areas where common operating procedures, routine maintenance or spare parts can be affected.

In other areas, the Owner shall be notified and shall have the option to select an identified equipment "Preferred" Vendor via a Change Order if the "Preferred" Vendor is not the Contractor's evaluated equipment bidder. The Owner would not expect to see a request for change order however unless there are significant cost delta's from the "Preferred" Vendor.

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	Bently Nevada – PacifiCorp Standard
Position Switch	Namco Co.
Position Transmitter	M-System Fisher-Rosemount - Preferred Foxboro Yokogawa Dresser Measurement & Control ABB
Flow Indicator	Yokogawa Electric Co.
Purity Analyser	Yokogawa - PacifiCorp Standard
Solenoid Valve	Asco, Co.
Positioner	Fisher Co.
Instrument Valve	Swagelok, Co. - Preferred Whitey Co. – Preferred Valves
Instrument Fittings	Swagelok, Co. - Preferred Whitney Co.
Control Valve	CCI (Feedwater) – Preferred Fisher Co. Valtek Masoneilan ABB
I/P Converter	Yokogawa
Generator Condition Monitor	E-One, GCMX – PacifiCorp Standard
Instrument Rack / Generator	E-One – PacifiCorp Standard
Seal Oil Gauge Panel	E-One – PacifiCorp Standard
Hydrogen Gas Measuring Rack	E-One – PacifiCorp Standard
Excitation System Equipment	GE Energy – EX 2100 – PacifiCorp Standard Basler Equipment – DESC400
H2 Gas Dryer	LectroDryer
Combined Main Stop and Control Valve / Actuator	Rexroth

Equipment / Construction Package	Approved Subcontractors / Equipment Suppliers
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 Alfa Laval (Plate & Frame) - Preferred
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	Forney – Preferred Coen John Zink
SCR and CO Systems	Peerless Mfg. Hitachi Vector MHI
SCR Catalyst	Cormetech Argillon (formerly Siemens) Haldor Topsoe
HRSG Stack Damper Actuator	Limitorque – Preferred Rotork Siemens
CO Catalyst	BASF Catalysts - Preferred EmeraChem

Equipment / Construction Package	Approved Subcontractors / Equipment Suppliers
Auxiliary Boiler	Nebraska - Preferred Babcock & Wilcox Cleaver Brooks Indeck Rentech Victory Energy
Boiler Feed Pumps and Motors	Ebara Flowserve KSB, Inc. – Preferred 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 EVAPCO Holtec
Heat Exchangers, Plate & Frame	Alfa Laval– Preferred 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	Cuno - Preferred
Oil Water Separators	PS International – Preferred Anderson Great Lakes Environmental Highland Tank

Equipment / Construction Package	Approved Subcontractors / Equipment Suppliers
Air Compressors	Gardner Denver - Preferred Atlas Copco Cameron Cooper/Joy Industries Dresser Elliot Ingersoll Rand Sullair UE Compression
Air Dryers	Atlas Copco – Preferred 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	ITT Goulds Pumps - Preferred Aurora Pumps Flowserve Johnston KSB Peerless Sulzer
Pumps, Vertical	Aurora Pumps ITT Goulds Pumps Flowserve Johnston -Preferred

Equipment / Construction Package	Approved Subcontractors / Equipment Suppliers
Vacuum Pumps	Nash - Preferred Gardner Denver Graham Manufacturing Nitech
Sump Pumps (Submersible)	Aurora Pumps Flowserve ITT Flygt ITT Goulds Johnston Pumps KSB Nagle Warman
Pumps, Fire Water	Fairbanks Morse – Preferred Aurora Pumps ITT A-C Pump Peerless
Steam Conditioning Valves (attemporators)	CCI Drag Emerson Process Management Flowserve Copes Vulcan
Fire Protection System	Delta Fire Protection – Salt Lake City - Preferred 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	GE – Preferred 4160V Square D – Preferred 480V Eaton/Cutler-Hammer – 4160V and 480V Powell (Only if part of package) Siemens ABB Alstom Mitsubishi Hitachi
Motor Control Centers	Allen Bradley – Preferred for 480V MCC, 4160V MCC Eaton/Cutler-Hammer – Preferred for 480V MCC, 4160V MCC 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	Delta-Unibus – Preferred GE Canada - Preferred ABB Calvert Emform Hitachi JES Engineering Simelectro
Non Segregated Phase Duct	Delta-Unibus – Preferred Powell - Preferred ABB Calvert Square D Technibus

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

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

Equipment / Construction Package	Approved Subcontractors / Equipment Suppliers
Radioactive	Kay-Ray Ohmart-Vega Texas Nuclear
Ultrasonic	Milltronics – preferred Endress & Hauser Inc. Kistler Morse Magnetrol Panametrics
TDR	Rosemount – preferred Magnetrol
Magnetic Flow	Rosemount – preferred Endress & Hauser
Mass Flow	Rosemount – preferred Fisher ABB/Bailey
Pressure	Rosemount Model 3501 (or approved equal)– preferred <u>PacifiCorp Standard</u> Foxboro Honeywell Yokogawa
Target Meter	Hersey Measurement – preferred Foxboro
Temperature	Fisher-Rosemount – preferred Foxboro Honeywell Moore Industries Yokogawa
Turbine	Daniel Foxboro
Transmitters, Pneumatic	
Differential Pressure	Fisher – preferred
Level Displacement	Fisher Magnetrol
Pressure	Fisher Foxboro
Target Meter	Foxboro
Temperature	Fisher-Rosemount Foxboro
UPS	Best SCI
Valves and Regulators	
Actuators, Diaphragm	Fisher – PacifiCorp Standard 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	Fisher – preferred ABB Atwood & Morrill (E) Cameron WKM Flowserve Jamesbury Masoneilan SPX Copes Vulcan TYCO (E) Valtek Valve Technologies Velan Watts
Positioners, Electric	Limitorque, MX – Preferred 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	Dezurik - Preferred 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)	CCI Drag – PacifiCorp Standard (Steam bypass valves shall be CCI Drag technology valves, not BTG) Copes-Vulcan
Control Valves, Severe Duty, Boiler Feed Pump Recirculation Control Valve	Copes-Vulcan Multi-stage HUSH
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#	Fisher - Preferred Collins Instrument (Plastic) Control Component, Inc. (CCI) Masoneilan Samson Valke
Miniature / Special	Collins Instrument Research Controls Whitey
Solenoid Valves	ASCO
Pinch, Weir, Diaphragm	Fisher-Rosemount - Preferred ASAHI Emerson Grinnell Red Valve RKL
Plug	Durco Tufline
Regulators	Emerson Fisher-Rosemount - Preferred Air Service Cashco Emerson Process Service
Strainers, Automatic Flushing	Fluid Engineering Hayward Strainers Hellan SP Kinney Engineers

Equipment / Construction Package	Approved Subcontractors / Equipment Suppliers
Valves, Ball	Apollo Cooper Cameron Dresser ITT Engineered Valves Mogas Neles Jamesbury NIBCO, Inc Stockham Valves & Fittings Valve Technologies Whitey
Relief or Safety Valves	Dresser Consolidated – PacifiCorp Standard for Steam Service Anderson Greenwood/Crosby (Tyco) Ferris
Installation Hardware	
Boxes or Cabinets – Instrument and Junctions Metal	Hoffman – preferred Appleton
Boxes or Cabinets – Instrument and Junctions Fiberglass or Plastic	Hoffman – preferred 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	Rosemount – Preferred Anderson Greenwood/Crosby (Tyco) PGI
Tubing Metal	Dekoron Thermoelectric
Tubing NonMetallic	Dekoron Thermoelectric
Fittings (Compression) Metal	Swagelok – Preferred Gyrolok
Fittings (Compression) Non-metallic	JACO (Kynar)
Fittings (Compression) Valves, Metal	Whitey – Preferred Anderson Greenwood/Crosby Hoke PGI
Wire Signal	Alpha Belden Dekoron
Wire Thermocouple	Dekoron
Other	

Equipment / Construction Package	Approved Subcontractors / Equipment Suppliers
Expansion Joints	Bachmann Industries Efoxx 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	Schweitzer Engineering Labs, Inc. 309400 Series – PacifiCorp Standard
Lockout Relays	Electroswitch – PacifiCorp Standard
Test Switches	ABB – Preferred States

Equipment / Construction Package	Approved Subcontractors / Equipment Suppliers
Revenue Meters	Landis & Gyr Elite – (or most recent Landis & Gyr replacement – Advanced approval required) - PacifiCorp Standard
Revenue Current Transformer/Voltage Transformer	Alstom Model KOTEF 362-ER- Preferred
Switchyard Work Approved Engineering Companies	<p>Power Engineers Contact: Don Evans Tel: 503-244-9321 E-Mail – devans@powereng.com</p> <p>Burns & McDonnell Contact: Justin Sherman Tel: 303-474-2235 E-Mail – jsherman@burnsmcd.com</p> <p>Dashiell Contact: Adam Brown Tel: 713-558-6732 E-Mail – adam.brown@dashiell.com</p> <p>Stanley Contact: Ken Moriarty Tel: 303-925-8248 E-Mail – moriartyken@stanleygroup.com</p> <p>ECI Contact: Bruce LaMeres Tel: 801-292-9954 E-Mail – bruce.lameres@ecisl.com</p> <p>HDR Contact: Paul Campell Tel: 503-423-3879 E-Mail – paul.capell@hdrinc.com</p>
Switchyard Equipment	
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

Shop surveillance is required to ensure engineering capabilities, QA/QC program, and compliance to required codes and standards of manufacturing (welding, materials selection, design code applications, etc.) for this equipment are in order.