

**AMENDMENT NO. 1 TO THE AGREEMENT FOR
PERFORMANCE OF SERVICES
BETWEEN THE
CITY OF SANTA CLARA, CALIFORNIA,
AND
RELIABILITY OPTIMIZATION, INC.**

PREAMBLE

This agreement ("Amendment No. 1") is entered into between the City of Santa Clara, California, a chartered California municipal corporation ("City") and Reliability Optimization, Inc., a California corporation, with its principal place of business located at 325 Park Drive, Aptos, California 95003 ("Contractor"). City and Contractor may be referred to individually as a "Party" or collectively as the "Parties" or the "Parties to this Agreement."

RECITALS

- A. The Parties previously entered into an agreement entitled, "Agreement or Performance of Services Between the City of Santa Clara, California and Reliability Optimization, Inc.", dated on or about January 25, 2018 (Agreement);
- B. The Parties entered into the Agreement for the purpose of having Contractor provide all equipment, materials, and labor to Provide Predictive Maintenance Program Services for the Electric Department Generation Facilities and the Parties now wish to amend the Agreement to extend the term, and clarify and add additional services; and
- C. The Agreement and its amendments are collectively referred to herein as the "Agreement as Amended".

NOW, THEREFORE, the Parties agree as follows:

AMENDMENT TERMS AND CONDITIONS

- 1. Section 5 of this Agreement "TERM" is hereby deleted and replaced with: "Unless otherwise set forth in this Agreement or unless this paragraph is subsequently modified by a written amendment to this Agreement, the term of this Agreement shall begin on the Effective Date of this Agreement and terminate five (5) years from the Effective Date."
- 2. Section 11 of the Agreement "COMPENSATION AND PAYMENT" is hereby deleted and replaced with: "In consideration for Contractor's complete performance of Services, City shall pay Contractor for all materials provided and

services rendered by Contractor at the rates specified in Exhibit B Fee Schedule and Payment Provisions Amended January 15, 2021.”

3. Exhibit A - Scope of Services is hereby deleted and replaced with the attached Exhibit A - Amended January 15, 2021 - Scope of Services.
4. Exhibit B - Schedule of Fees is hereby deleted and replaced with the attached Exhibit B - Amended January 15, 2021- Fee Schedule and Payment Provisions.
5. Exhibit F - Milestone Schedule is hereby deleted and replaced with Exhibit F Labor Compliance Addendum.
6. Except as set forth herein, all other terms and conditions of the Agreement as Amended shall remain in full force and effect. In case of a conflict in the terms of the Agreement and this Amendment No. 1, the provisions of this Amendment No. 1 shall control.

The Parties acknowledge and accept the terms and conditions of this Amendment No. 1 as evidenced by the following signatures of their duly authorized representatives.

CITY OF SANTA CLARA, CALIFORNIA
a chartered California municipal corporation

Approved as to Form:

Dated: _____

BRIAN DOYLE
City Attorney

DEANNA J. SANTANA
City Manager
1500 Warburton Avenue
Santa Clara, CA 95050
Telephone: (408) 615-2210
Fax: (408) 241-6771

“CITY”

RELIABILITY OPTIMIZATION, INC.
a California corporation

Dated: _____
By (Signature): _____
Name: _____
Title: _____
Principal Place of
Business Address: _____
Email Address: _____
Telephone: () _____
Fax: () _____

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EXHIBIT A – AMENDED JANUARY 15, 2021

SCOPE OF SERVICES

The Services to be performed for the City by the Contractor under this Agreement is to provide predictive maintenance service including Vibration Testing and Analysis, On-line Motor Analysis, Off-line Motor Analysis, Infrared Thermographic Imaging, Airborne Ultrasonic Testing, Lubrication Oil Analysis, and Transformer Oil Analysis according to the schedule set forth in Appendix A located at Silicon Valley Power (SVP) sites in California.

1. SCOPE OF WORK

1.1. TYPES OF PLANTS

In General, the following services will be performed based on the type of plant.

- 1.1.1. Gas Fired Power Plants - the Reliability / PdM Services include Vibration Testing and Analysis, On-line Motor Analysis, Off-line Motor Analysis, Infrared Thermographic Imaging, Lubrication Oil Analysis and Transformer Oil Analysis work outlined in this Exhibit A and corresponding to the included equipment list/Technology Application List contained in Appendix A, which will be performed at the fixed lump sum costs as specified in Exhibit B. This price includes all costs to complete work.
- 1.1.2. Hydroelectric Power Plants - the PdM Services include Vibration Testing and Analysis, On-line Motor Analysis, Off-line Motor Analysis, Infrared Thermographic Imaging, Airborne Ultrasonic Testing, Transformer Oil Analysis and Corona Imaging and Analysis work outlined in this Exhibit A and corresponding to the included equipment list/Technology Application List contained in Appendix A, which will be performed at the fixed lump sum costs as specified in Exhibit B. This price includes all costs to complete work.

1.2. VIBRATION TESTING

- 1.2.1. **Equipment to be tested:** Contractor shall perform testing and analysis on critical plant equipment as derived from the rotating equipment list and indicated on the included equipment listing

contained in Appendix A.

1.2.2. Frequency of Measurements

1.2.2.1. The frequency of periodic vibration data collection and analysis are as defined in the equipment list for each plant included in Appendix A.

1.2.2.2. The periodic rates assigned are based on several factors including the criticality of machinery to be tested, and operating pattern associated with equipment. As noted, equipment swapping practices will determine collection frequency of spared equipment.

1.2.2.3. Varying confidence levels related to detection of problems versus non-detection of problems corresponds to varying frequencies of data collection and analysis intervals. General guidelines as to problem detection confidence levels achieved with varying periodic service intervals for constantly operating equipment are: (1) Weekly - 98%; (2) Monthly – 95%; (3) Quarterly - 70%; and (4) Semi -annual - 45-50%. The periodic collection schedule included are based on historical operational schedules and discussion plant personnel.

1.2.3. **Measurement Parameters:** The vibration measurements will include: (1) vibration velocity as specified by ISO Standard 2372, characterizing vibration velocity as the most significant vibration measurement, (2) vibration acceleration for detection and analysis of high frequency vibrations such as bearing, gearing, and rotor bar defects, and (3) Spike Energy acceleration vibration for detection and analysis of problems resulting in impactive vibration and early detection of bearing degradation. All parameters measured will include both an overall vibration measurement and amplitude versus frequency spectra. The alarm limits for the overall and spectral measurements will be derived from industry standards and experience. The spectral parameters will be established based on machinery characteristics, i.e. RPM, bearing type, teeth on gears, etc., and based on experience and knowledge regarding the setup and installation of PdM programs.

1.2.4. Test Equipment and Database to be Used:

1.2.4.1. For periodic vibration analysis work, Rockwell Automation's Emonitor and enPAC 2500 vibration data collector shall be used to for collection, analysis and report generation. This leverages the historical data available for comparison of present time machine condition.

- 1.2.4.2. For real time vibration data capture and analysis an IOtech ez-Tomas and 652u multi-channel analyzer or Alta Solutions AS-410 and AS-1250 multi-channel analyzer shall be used for collection and analysis of the data.

1.3. ON-LINE MOTOR ANALYSIS (EMAX)

- 1.3.1. **Equipment to be tested:** On-line Motor Analysis is to be performed on critical plant equipment as derived from the rotating equipment list and indicated on the included equipment listing contained in Appendix A.
- 1.3.2. **Frequency of Measurements:**
 - 1.3.2.1. Contractor shall perform On-line Motor Analysis data collection and analysis at annual intervals as has been calculated at and is recommended and accepted by industry standards.
 - 1.3.2.2. This periodic rate is recommended due to several factors including the criticality of machinery to be tested and industry standards for electric motor analysis.
- 1.3.3. **Measurement Parameters: MEASUREMENT PARAMETERS**

The On-line Motor Analysis data to be gathered will include both voltage and current on each phase of the motor circuit. Derived from this data are performance parameters such as voltage harmonic distortion, current harmonic distortion, voltage crest factor, current crest factor, impedance unbalance, voltage unbalance, current unbalance, and pole passing current indicating rotor related problems. From this data the condition of the stator and rotor can be assessed. Motor inefficiencies and power quality problems can also be analyzed.
- 1.3.4. **Test Equipment and Database to be Used:** A PdMA MCEMax tester and MCEGold software application shall be used for on-line motor data collection, analysis and report generation. This leverages the historical data available for comparison of present time machine condition.

1.4. OFF-LINE MOTOR ANALYSIS (MCE)

- 1.4.1. **Equipment to be tested:** Off-line Motor Analysis is to be performed on critical plant equipment as derived from the rotating equipment list and indicated on the included equipment listing contained in Appendix A.

1.4.2. Frequency of Measurements:

- 1.4.2.1. Contractor shall perform Off-line Motor Analysis data collection and analysis at annual intervals as has been calculated at and is recommended and accepted by industry standards.
- 1.4.2.2. This periodic rate is recommended due to several factors; (1) The criticality of machinery to be tested and (2) Industry standards for electric motor analysis.

1.4.3. Measurement Parameters:

The Motor Circuit Evaluation data to be gathered will include Phase to Phase Low Resistance, Phase to Phase Inductance, Capacitance to Ground, and Polarization Index and/or Dielectric Absorption Ratio data and Step Voltage testing where applicable. Further testing can be performed dependent on and as required by other test results. From this data, the condition of the stator and rotor can be assessed.

- 1.4.4. **Test Equipment and Database to be Used:** A PdMA MCEmax tester and MCEGold software application shall be used for off-line motor data collection, analysis and report generation. This leverages the historical data available for comparison of present time machine condition.

1.5. INFRARED THERMOGRAPHIC IMAGING

1.5.1. Equipment to be tested:

- 1.5.1.1. Infrared Thermographic Imaging is to be performed on critical plant equipment as derived from the rotating equipment list and indicated on the included equipment listing contained in Appendix A.
- 1.5.1.2. In addition to the motor starters and switchgear listed, infrared testing would also include any and all other panels, MCC cubicles, power distribution apparatus, switchgear and high yard areas opened by SVP personnel and made available to survey.

1.5.2. Frequency of Measurements:

- 1.5.2.1. Contractor shall perform frequency of Infrared Thermographic Imaging collection and analysis annual intervals.

- 1.5.2.2. This periodic rate is recommended due to several factors including the criticality of equipment to be tested and industry standards for Infrared Thermographic Imaging
- 1.5.2.3. A post correction survey to ensure correction of problems and abnormal conditions reported will be performed after corrective measures have been implemented.

1.5.3. **Measurement Parameters**

The Infrared Thermographic Imaging data to be gathered will include both Infrared Imagery and Digital pictures of machinery and components with problems that need corrective actions. Derived from this data are operational measurement parameters such as operation temperature above ambient conditions, operating temperature above similar components, and operating temperature as compared to relative loading.

- 1.5.4. **Test Equipment and Database to be Used:** A Flir Infrared Camera and Flir Professional Report Writer software application shall be used for infrared thermogram collection, analysis and report generation. This leverages the historical data available for comparison of present time machine condition.

1.6. LUBRICATION OIL ANALYSIS (LOA)

- 1.6.1. **Equipment to be tested:** LOA is to be performed on critical plant equipment as derived from the rotating equipment list and indicated on the included equipment listing contained in Appendix A.
- 1.6.2. ROI personnel will draw all lubrication oil samples and send to lab of choice for diagnostic processing. ROI will analyze results and provide reports containing analysis of results and recommended actions. Cost of laboratory diagnostic processing is included in this Scope of Services.
- 1.6.3. **Frequency of Measurements:**
 - 1.6.3.1. Contractor shall perform LOA at quarterly intervals for critical systems and semi-annually for systems with secondary criticality as has been calculated at and is recommended and accepted by industry standards.
 - 1.6.3.2. This periodic rate is recommended due to several factors including the criticality of equipment to be tested and industry standards for lubrication oil analysis.

1.6.4. **Measurement Parameters**

- 1.6.4.1. The LOA will include Water (KF), Viscosity, ISO particle count, Total Acid Number, Spectrochemical Analysis and DR Ferrography.
- 1.6.4.2. An in-depth turbine lubricant assessment will be performed annually on turbine oil.
- 1.6.4.3. Further analysis such as Analytical Ferrography will be performed as required by initial Lubrication Analysis and other PdM testing results.
- 1.6.4.4. From this data the condition of the lubricant can be determined so that the presence and analysis of wear particles will aid in determining the mode of degradation and root cause of problematic conditions.

1.7. **TRANSFORMER OIL ANALYSIS (TOA)**

- 1.7.1. **Equipment to be tested:** TOA is to be performed on critical plant equipment as derived from the rotating equipment list and indicated on the included equipment listing contained in Appendix A.
- 1.7.2. **Frequency of Periodic Measurements:** The frequency of transformer oil analysis is will be performed on the following schedule:
 - 1.7.2.1. DVR, Cogen & Gianera Generator Step Up, Unit Auxiliary and Station Service Transformers: Quarterly testing consisting of one full scope test as described below under measurement parameters and three tests consisting of Dissolved Gas Analysis (DGA) and Dissolved Water by Karl Fischer Analysis.
 - 1.7.2.2. All other DVR, Cogen & Gianera oil filled Transformers: Annual testing consisting of one full scope test as described in this section under Measurement Parameters.
 - 1.7.2.3. Stoney Gorge, Black Butte and High Line Generator Step Up Transformers Annual testing consisting of one full scope test as described in this section under Measurement Parameters and one test consisting of DGA and Dissolved Water by Karl Fischer Analysis.
 - 1.7.2.4. Stoney Gorge and Black Butte Oil Filled Circuit Breakers (OCB's) annual testing consisting of one full scope test as described in this section under Measurement Parameters and one test consisting of DGA and Dissolved Water by Karl

Fischer Analysis.

- 1.7.2.5. These periodic rates are based on several factors inclusive of the criticality of machinery to be tested, and operating pattern associated with equipment.

1.7.3. **Measurement Parameters**

- 1.7.3.1. Full scope transformer oil analysis includes:

- 1.7.3.1.1. Liquid Oil Screen Testing comprised of a) Dielectric Breakdown Strength, b) Neutralization Number, c) Interfacial Tension Test, and d) Oil Color Comparison and Appearance;
- 1.7.3.1.2. Liquid Power Factor;
- 1.7.3.1.3. Dissolved Gas Analysis (DGA);
- 1.7.3.1.4. Dissolved Water Analysis (KF);
- 1.7.3.1.5. Fault Metal Analysis;
- 1.7.3.1.6. Inhibitor Analysis; and
- 1.7.3.1.7. Furan Analysis. Further analysis may be required as a result of initial transformer oil analysis, on-line DGA monitoring and other PdM testing results. These may include Corrosive Sulfur, Degree of Polymerization Testing, and full realm of off-line testing, i.e. Power Factor Tests, Polarization Index Testing, Step Voltage Testing, Low Resistance Testing, and Frequency Response Analysis dependent on suspected condition. From this data the condition of the transformer and fluid can be determined and the presence of dissolved gases will aid in determining the mode of degradation and root cause of the problematic condition and corrective actions required.

- 1.7.3.2. Full scope OCB oil analysis including:

- 1.7.3.2.1. Liquid Oil Screen Testing comprised of a) Dielectric Breakdown Strength, b) Neutralization Number, c) Interfacial Tension Test, and d) Oil Color Comparison and Appearance;

- 1.7.3.2.2. Dissolved Gas Analysis (DGA);
- 1.7.3.2.3. Dissolved Water Analysis (KF); and
- 1.7.3.2.4. Further analysis may be required as a result of initial OCB oil analysis. These may include a full realm of off-line testing. From this data the condition of the OCB and fluid can be determined and the presence of dissolved gases will aid in determining the mode of degradation and root cause of the problematic condition and corrective actions required.

- 1.7.4. **Test Equipment and Database to be Used:** ROI will contract with SD Myers to draw all transformer and OCB oil samples and perform lab diagnostic processing. Additional analysis of results will be performed and report provided containing analysis of results and recommended actions.

1.8. PdM TESTING REPORTING:

- 1.8.1. PdM report shall be generated and delivered to SVP within five (5) days after the PdM testing data has been gathered.
- 1.8.2. Problems requiring immediate attention shall be urgently communicated to SVP as soon as practical.
- 1.8.3. A report will be delivered to SVP once per month or corresponding to the periodic schedule of each technology applied.
- 1.8.4. The report shall contain, but is not limited to, a listing of all machinery tested, (highlighting problem areas), followed by detailed analysis of machinery problems found, including recommendations as to the corrective actions needed. The reports will be in compliance with the historical format.

2. DATABASES

City shall be the exclusive owner of the PdM Software database(s) generated during this contract service. Any reproduction, publication, or distribution of information contained in these files will not be permitted without written approval from City of Santa Clara. ROI shall maintain and backup the PdM databases. ROI will use the databases freely for the benefit of City of Santa Clara. At City's sole discretion, City may assume the management of the database(s) at any time during the contract period

3. RESPONSIBILITIES OF CITY

- 3.1. City shall provide safe access to areas and machinery to be tested including modifications to machinery guards and enclosures to provide safe access to machinery bearings for the purpose of Vibration data collection. Contractor shall notify City of any modifications required by contractor with sufficient notice for City to take action.
- 3.2. City shall provide machinery information as needed such as machinery nameplate data, driven component rotational speeds, bearing manufacturer and model.
- 3.3. City shall provide safe access to Motor Control Centers for the purpose of connecting leads for On-line and Off-line Motor Analysis Testing.
- 3.4. City shall provide machinery in a non-operational state for the purpose of Off-line Motor Analysis.
- 3.5. City shall have generator leads disconnected and ready for performance of off-line generator testing.
- 3.6. City shall make available personnel to work ahead of PdM personnel disconnecting motor leads in connection boxes (as in the case where surge arrestors and/or capacitors are installed and/or AC or DC VFD's need to be isolated from the testing circuit), removing tape to expose leads for testing, or other as needed to allow access to T-leads or motor leads to enable off-line testing to be performed). Contractor shall notify City of all needs for disconnection in advance.
- 3.7. City shall make machinery available in an operational state and loaded to maximum or normal levels for the purpose of Vibration Analysis, On-line Motor Analysis Testing, Infrared Thermographic Imaging, Transformer Oil Analysis sample collection, Lubrication Oil Analysis sample collection.
- 3.8. City shall make available Personnel to work ahead of PdM personnel opening electrical enclosures and allowing access to electrical and/or mechanical equipment, components, and devices to be scanned with Infrared Thermographic Imaging.

SVP DVR

PdM Technology Application List

	LOCATION	SHORT DESCRIPTION	VIBR- mnthly Critical/ non- spared	VIBR-bi- monthly spared/ non-critical	VIBR-as Available	Emax Annual	MCE Annual	IR Annual	XFMR Quarterly	XFMR Annual	LOA Qrtly	LOA Semi Annual
	Unit 1											
1	CT Gen	COMBUSTION TURBINE GENERATOR	X					X			X	
2	NH3 Dilution Blwr A	AMMONIA DILUTION BLOWER A		X		X	X	X				
3	NH3 Dilution Blwr B	AMMONIA DILUTION BLOWER B		X		X	X	X				
4	Turbine Vent Fan A	TURBINE VENTILATION FAN A		X		X	X	X				
5	Turbine Vent Fan B	TURBINE VENTILATION FAN B		X		X	X	X				
6	Gen Vent Fan A	GENERATOR VENTILATION FAN A		X		X	X	X				
7	Gen Vent Fan B	GENERATOR VENTILATION FAN B		X		X	X	X				
8	Wtr Inj Pmp A	WATER INJECTION PUMP A		X		X	X	X				
9	Wtr Inj Pmp B	WATER INJECTION PUMP B		X		X	X	X				
10	BFWP A	BOILER FEED WATER PUMP A		X		X	X	X				X
11	BFWP B	BOILER FEED WATER PUMP B		X		X	X	X				X
	Unit 2											
12	CT Gen	COMBUSTION TURBINE GENERATOR	X					X			X	
13	NH3 Dilution Blwr A	AMMONIA DILUTION BLOWER A		X		X	X	X				
14	NH3 Dilution Blwr B	AMMONIA DILUTION BLOWER B		X		X	X	X				
15	Turbine Vent Fan A	TURBINE VENTILATION FAN A		X		X	X	X				
16	Turbine Vent Fan B	TURBINE VENTILATION FAN B		X		X	X	X				
17	Gen Vent Fan A	GENERATOR VENTILATION FAN A		X		X	X	X				
18	Gen Vent Fan B	GENERATOR VENTILATION FAN B		X		X	X	X				
19	Wtr Inj Pmp A	WATER INJECTION PUMP A		X		X	X	X				
20	Wtr Inj Pmp B	WATER INJECTION PUMP B		X		X	X	X				
21	BFWP A	BOILER FEED WATER PUMP A		X		X	X	X				X
22	BFWP B	BOILER FEED WATER PUMP B		X		X	X	X				X
	STG											
23	Steam Turbine	STEAM TURBINE	X					X			X	
24	ST LOP A	STEAM TURBINE LUBE OIL PUMP A		X		X	X	X				
25	ST LOP B	STEAM TURBINE LUBE OIL PUMP B		X		X	X	X				
26	ST OP A	STEAM TURBINE OIL PUMP A		X		X	X	X				
27	ST OP B	STEAM TURBINE OIL PUMP B		X		X	X	X				
	CTW											
28	CTW Fan A	COOLING TOWER FAN A		X		X	X	X				X
29	CTW Fan B	COOLING TOWER FAN B		X		X	X	X				X
30	CTW Fan C	COOLING TOWER FAN C		X		X	X	X				X
31	Circ Cooling Pmp A	CIRCULATION COOLING PUMP A		X		X	X	X				
32	Circ Cooling Pmp B	CIRCULATION COOLING PUMP B		X		X	X	X				
33	Circ Cooling Pmp C	CIRCULATION COOLING PUMP C		X		X	X	X				
34	Aux Cooling Pmp A	AUXILIARY COOLING PUMP A		X		X	X	X				
35	Aux Cooling Pmp B	AUXILIARY COOLING PUMP B		X		X	X	X				
	Condensate											
36	CND Pmp A	CONDENSATE PUMP A		X		X	X	X				
37	CND Pmp B	CONDENSATE PUMP B		X		X	X	X				

SVP DVR

PdM Technology Application List

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38	CND Pmp C	CONDENSATE PUMP C		X		X	X				
39	CND Drn Pmp A	CONDENSATE DRAIN PUMP A			X	X	X				
40	CND Drn Pmp B	CONDENSATE DRAIN PUMP B			X	X	X				
41	Vacuum Pmp P-1A	VACUUM PUMP P-1A		X		X	X				
42	Vacuum Pmp P-1B	VACUUM PUMP P-1B		X		X	X				
	Water Treatment										
43	Air Cmp A	AIR COMPRESSOR A		X			X				
44	Air Cmp B	AIR COMPRESSOR B		X			X				
45	Demin Pmp A	DEMINERALIZE WATER PUMP A		X			X				
46	Demin Pmp B	DEMINERALIZE WATER PUMP B		X			X				
47	Water Recov Pmp A	WATER RECOVERY PUMP A		X			X				
48	Water Recov Pmp B	WATER RECOVERY PUMP B		X			X				
49	FWD Flushing Pmp 4A	FORWARD FLUSHING PUMP 4A			X		X				
50	FWD Flushing Pmp 4B	FORWARD FLUSHING PUMP 4B			X		X				
51	Filter Feed Pmp 1A	FILTER FEED WATER PUMP 1A		X			X				
52	Filter Feed Pmp 1B	FILTER FEED WATER PUMP 1B		X			X				
53	Backwash Pmp A	BACKWASH PUMP A			X		X				
54	Backwash Pmp B	BACKWASH PUMP B			X		X				
55	RO Boost Pmp 2A	RO BOOST PUMP 2A		X			X				
56	RO Boost Pmp 2B	RO BOOST PUMP 2B		X			X				
57	RO Boost Pmp 3A	RO BOOST PUMP 3A		X			X				
58	RO Boost Pmp 3B	RO BOOST PUMP 3B		X			X				
	Chiller										
59	Chiller A	CHILLER A		X		X	X				X
60	Chiller B	CHILLER B		X		X	X				X
61	Chilled Water Pmp A	CHILLED WATER PUMP A	X			X	X				
62	Chilled Water Pmp B	CHILLED WATER PUMP B	X			X	X				
63	Chilled Water Pmp C	CHILLED WATER PUMP C	X			X	X				
64	CCW Pmp A	CLOSED COOLING WATER PUMP A		X		X	X				
65	CCW Pmp B	CLOSED COOLING WATER PUMP B		X		X	X				
	Gas Comp Bldg										
66	Gas Comp A	GAS COMPRESSOR A	X			X	X				X
67	Gas Comp B	GAS COMPRESSOR B	X			X	X				X
68	Gas Comp C	GAS COMPRESSOR C	X			X	X				X
69	GC Cooler A	GAS COMPRESSOR COOLER A	X			X	X				
70	GC Cooler B	GAS COMPRESSOR COOLER B	X			X	X				
71	GC Cooler C	GAS COMPRESSOR COOLER C	X			X	X				
72	AIR CMP A	AIR COMPRESSOR A		X			X				
73	AIR CMP B	AIR COMPRESSOR B		X			X				
	XFMR										
74	CTG GSU	CTG 1 STEP UP TRANSFORMER					X	X	X		
75	CTG GSU	CTG 2 STEP UP TRANSFORMER					X	X	X		

SVP DVR

PdM Technology Application List

	LOCATION	SHORT DESCRIPTION	VIBR- mnthly Critical/ non- spared	VIBR-bi- monthly spared/ non-critical	VIBR-as Available	Emax Annual	MCE Annual	IR Annual	XFMR Quarterly	XFMR Annual	LOA Qrtly	LOA Semi Annual
76	UAT 1	UNIT AUXILIARY TRANSFORMER						X	X	X		
77	SST1	STATION SERVICE SUBSTATION TRANSFORMER						X	X	X		
78	SUS	HRSG SUS T1						X		X		
79	SUS	HRSG SUS T2						X		X		
80	SUS	ST BOP SUS T1						X		X		
81	SUS	ST BOP SUS T2						X		X		
82	SUS	Gas Compressor SUS Transformer 1						X		X		
83	SUS	Gas Compressor SUS Transformer 2						X		X		
	SWITCHYARD											
84	SWITCHYARD	HIGH YARD / SWITCH YARD EQUIPMENT						X				

SVP Cogen

PdM Technology Application List

LOCATION	SHORT DESCRIPTION	VIBR- mnthly Critical/ non- spared	VIBR-bi- monthly spared/ non-critical	VIBR-as Available	Emax Annual	MCE Annual	IR Annual	XFMR Quarterly	XFMR Annual	LOA Qrtly	LOA Semi Annual
Unit 1											
1	CG1 Cooler	COMBUSTION GENERATOR COOLER 1		X		X	X	X			
2	U1 RdGr Gen	UNIT 1 REDUCTION GEARBOX GENERATOR	X				X			X	
3	CG1 Vent Fan	COMBUSTION GENERATOR VENTILATION FAN 1		X		X	X	X			
Unit 2											
4	CG2 Cooler	COMBUSTION GENERATOR COOLER 2		X		X	X	X			
5	U2 RdGr Gen	UNIT 2 REDUCTION GEARBOX GENERATOR	X				X			X	
6	CG2 Vent Fan	COMBUSTION GENERATOR VENTILATION FAN 2		X		X	X	X			
BOP											
7	BOP BFP 4A	BALANCE OF PLANT BOILER FEED WATER PUMP 4A	X			X	X	X			
8	BOP BFP 4B	BALANCE OF PLANT BOILER FEED WATER PUMP 4B	X			X	X	X			
9	BOP BFP 4C	BALANCE OF PLANT BOILER FEED WATER PUMP 4C	X			X	X	X			
10	BOP DA Recirc P5	BALANCE OF PLANT DA RECIRCULATION PUMP P5	X			X	X	X			
11	BOP WI P6A	BALANCE OF PLANT WATER INJECTION P6A		X		X	X	X			
12	BOP WI P6B	BALANCE OF PLANT WATER INJECTION P6B		X		X	X	X			
13	BOP CND Pmp P2A	BALANCE OF PLANT CONDENSATION PUMP P2A		X		X	X	X			
14	BOP CND Pmp P2B	BALANCE OF PLANT CONDENSATION PUMP P2B		X		X	X	X			
15	BOP Gas Cmp 1	BALANCE OF PLANT GAS COMPRESSOR 1		X		X	X	X			
16	BOP Cooler 1	BALANCE OF PLANT COOLER 1		X		X	X	X			
17	BOP Gas Cmp 2	BALANCE OF PLANT GAS COMPRESSOR 2		X		X	X	X			
18	BOP Cooler 2	BALANCE OF PLANT COOLER 2		X		X	X	X			
19	BOP RO Pmp	BALANCE OF PLANT RO PUMP	X			X	X	X			
20	BOP SullAir Cmp 1100	BALANCE OF PLANT SullAir COMPRESSOR	X			X	X	X			
21	BOP SullAir Cmp 11	BALANCE OF PLANT SullAir COMPRESSOR	X			X	X	X			
XFMR											
22	SST1	STATION SERVICE SUBSTATION TRANSFORMER					X	X	X		
SWITCHYARD											
23	SWITCHYARD	HIGH YARD / SWITCH YARD EQUIPMENT					X				

SVP Gianera

PdM Technology Application List

LOCATION	SHORT DESCRIPTION	VIBR- Annually Critical/ non- spared	VIBR-bi- monthly spared/ non-critical	VIBR-as Available	Emax Annual	MCE Annual	IR Annual	XFMR Quarterly	XFMR Annual	LOA Qrtly	LOA Semi Annual
Unit 1											
1	U1 GT Gen	UNIT 1 REDUCTION GEARBOX GENERATOR	X				X				X
2	U1 88HQ	HYDRAULIC LUBE OIL PUMP 1		X		X	X				
3	U1 52CR1	CRANKING MOTOR 1		X		X	X				
4	U1 WIN1	WATER INJECTION 1	X			X	X				
5	U1 88QA	AUXILIARY LUBE OIL PUMP 1		X		X	X				
6	U1 88VME	DEMISTER FAN 1	X			X	X				
7	U1 88AB	ATOMIZER AIR BOOSTER 1	X			X	X				
8	U1 88TA	INLET AIR DIRT SEPARATOR 1	X			X	X				
9	U1 88AC	INLET AIR COOLER PUMP 1	X			X	X				
10	U1 88BT1	COOLING AIR FAN ACCESS TURBINE COMPARTMENT		X		X	X				
11	U1 88FD1	DISTILLATE FUEL FORWARDING PUMP 1		X		X	X				
12	U1 88FD2	DISTILLATE FUEL FORWARDING PUMP 2		X		X	X				
Unit 2											
13	U2 GT Gen	UNIT 2 REDUCTION GEARBOX GENERATOR	X				X				X
14	U2 88HQ	HYDRAULIC LUBE OIL PUMP 2		X		X	X				
15	U2 52CR2	CRANKING MOTOR 2		X		X	X				
16	U2 WIN2	WATER INJECTION 2	X			X	X				
17	U2 88QA	AUXILIARY LUBE OIL PUMP 2		X		X	X				
18	U2 88VME	DEMISTER FAN 2	X			X	X				
19	U2 AB	ATOMIZER AIR BOOSTER 2	X			X	X				
20	U2 88TA	INLET AIR DIRT SEPARATOR 2	X			X	X				
21	U2 88AC	INLET AIR COOLER PUMP 2	X			X	X				
22	BOP Cooler 2	BALANCE OF PLANT COOLER 2	X			X	X				
23	U2 88BT1	COOLING AIR FAN ACCESS TURBINE COMPARTMENT		X		X	X				
24	U2 88FD1	DISTILLATE FUEL FORWARDING PUMP 1		X		X	X				
25	U2 88FD2	DISTILLATE FUEL FORWARDING PUMP 2		X		X	X				
XFMR											
26	CTG GSU	CTG 1 STEP UP TRANSFORMER					X	X	X		
27	CTG GSU	CTG 2 STEP UP TRANSFORMER					X	X	X		
28	UAT 1	UNIT AUXILIARY TRANSFORMER					X	X	X		
29	SST1	STATION SERVICE SUBSTATION TRANSFORMER					X	X	X		
SWITCHYARD											
30	SWITCHYARD	HIGH YARD / SWITCH YARD EQUIPMENT					X				

SVP Hydroelectric Plant

PdM Technology Application List

	LOCATION	SHORT DESCRIPTION	VIBR-per schedule	Emax Annual	MCE Annual	IR Annual	UE Annual	LOA Per Schedule	XFMR Semi Annual	XFMR Annual	Corona
	Black Butte										
1	BB	Transformer T1				X			X	X	
2	BB	OCB at transformer (Single for 3 Phases)				X			X	X	
3	BB	OCB at end of Transmission (3 Phases)				X			X	X	
4	BB	Hydro Turbine Generator	X		X	X					
5	BB	All Switchgear				X					
6	BB	Highyard				X					
7	BB	Transmission Lines (~9.5 miles)				X					
8	BB	Wicket Gates Motor	X	X	X	X					
9	BB	Cooling Water Pump	X			X					
	Stoney Gorge										
1	SG	Transformer T1				X			X	X	
2	SG	OCB by Transformer (3 Phases)				X			X	X	
3	SG	Hydro Turbine Generator 1	X		X	X					
4	SG	Hydro Turbine Generator 2	X		X	X					
5	SG	All Switchgear				X					
6	SG	Highyard				X					
7	SG	Transmission Lines (~1 mile)				X					
	High Line										
1	HL	Transformer T1				X			X	X	
2	HL	Hydro Turbine Generator 1			X	X					
3	HL	All Switchgear				X					
4	HL	Highyard				X					

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EXHIBIT B - AMENDED JANUARY 15, 2021

FEE SCHEDULE AND PAYMENT PROVISIONS

Contractor shall provide services at the rates and fees set forth in this Exhibit B

1 RATES

1.1 Contractor's rates are as follows. Rates include all services indicated in Appendix A associated with each site listed below:

1.1.1 DVR (Gas Fired Power Plant) – \$96,216 annually, billed at \$8,018 per month

1.1.1.1 Vibration analysis annual cost - \$43,850

1.1.1.2 Infrared analysis annual cost - \$6,560

1.1.1.3 On-line motor analysis annual cost - \$7,310

1.1.1.4 Off-line motor analysis annual cost - \$8,917

1.1.1.5 Lubrication oil analysis annual cost - \$19,227

1.1.1.6 Transformer oil analysis annual cost - \$10,352

1.1.2 Cogen (Gas Fired Power Plant) – \$41,808 annually, billed at \$3,484 per month

1.1.2.1 Vibration analysis annual cost - \$25,590

1.1.2.2 Infrared analysis annual cost - \$2,133

1.1.2.3 On-line motor analysis annual cost - \$2,133

1.1.2.4 Off-line motor analysis cost - \$2,937

1.1.2.5 Lubrication oil analysis cost - \$7,186

1.1.2.6 Transformer oil analysis cost - \$1,829

- 1.1.3 Gianera (Gas Fired Power Plant) – \$20,072 annually, billed at \$5,018 quarterly
 - 1.1.3.1 Vibration analysis annual cost - \$2,132
 - 1.1.3.2 Infrared analysis annual cost - \$2,132
 - 1.1.3.3 Off-line motor analysis cost - \$2,937
 - 1.1.3.4 Lubrication oil analysis cost - \$4,703
 - 1.1.3.5 Transformer oil analysis cost - \$8,168
- 1.1.4 Black Butte (Hydroelectric Power Plant) – \$16,512 annually, billed at \$4,128 per site visit (4 visits annually)
 - 1.1.4.1 Vibration analysis annual cost - \$9,090
 - 1.1.4.2 Infrared analysis annual cost - \$1,535
 - 1.1.4.3 On-line motor analysis annual cost - \$768
 - 1.1.4.4 Off-line motor analysis annual cost - \$2,638
 - 1.1.4.5 Transformer oil analysis annual cost - \$2,481
- 1.1.5 Stony Gorge (Hydroelectric Power Plant) – \$14,289 annually, billed at \$4,763 per site visit (3 visits annually)
 - 1.1.5.1 Vibration analysis annual cost - \$5,668
 - 1.1.5.2 Infrared analysis annual cost - \$1,536
 - 1.1.5.3 Off-line motor analysis annual cost - \$3,815
 - 1.1.5.4 Transformer oil analysis annual cost - \$3,270
- 1.1.6 High Line (Hydroelectric Power Plant) – \$5,404 annually, billed at \$2,702 per site visit (2 visits annually)
 - 1.1.6.1 Infrared analysis cost - \$1,516
 - 1.1.6.2 Off-line motor analysis cost - \$2,281
 - 1.1.6.3 Transformer oil analysis annual cost - \$1,607
- 1.1.7 Rates for Hydroelectric Power costs are based on services being performed at all three sites during the same trips.

- 1.1.8 Costs are based on application of multiple technology services being performed at all sites and the separated costs are for information purposes only.
- 1.2 Additional Services:
 - 1.2.1 Additional Services shall be subject to rate sheet attached as Exhibit B-1 Amended January 15, 2021 and incorporated by this reference.
 - 1.2.2 The following definitions are applicable to hourly rates:
 - 1.2.2.1 Straight Time: Up to eight (8) hours on weekdays excluding holidays
 - 1.2.2.2 Overtime:
 - 1.2.2.2.1 First four (4) hours in excess of eight (8) hours on weekdays
 - 1.2.2.2.2 First four (4) hours worked on Saturday
 - 1.2.2.3 Double Time
 - 1.2.2.3.1 Hours worked on Sunday or Holiday (New Year's Day, President Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day, Christmas Eve and Christmas Day
 - 1.2.2.3.2 Over twelve (12) hours worked on weekday
 - 1.2.2.3.3 Over four (4) hours worked on Saturday
 - 1.2.3 When Additional Services are requested greater than five (5) days in advance, the vendor shall provide a quote for the anticipated services. Such quote shall be approved in writing (e-mail acceptable) by Electric Program Manager, Electric Utility Division Manager, Assistant Director Electric Utility, Chief Electric Utility Operating Officer
 - 1.2.4 Emergency Services --those services scheduled less than five (5) days in advance -- shall be quoted where possible and invoiced in a manner that permits the City to assure that services were provided at the rates authorized in this Agreement. The following staff are authorized to approve quotes and emergency work on this Purchase Order: Assistant Director Electric Utility, Chief Electric Utility Operating Officer

- 1.3 The rates outline above shall include all overhead, management, profit, Contractor employee training, software, travel, administrative costs, and any other expenses related to nature of the scope of services.

2 REIMBURSABLE EXPENSES

2.1 Pass-Through Costs:

- 2.1.1 In some cases, Contractor may pass-through costs such as, but not limited to, subcontracted activities or materials.
- 2.1.2 Such Pass-Through Costs shall be included in the quote.
- 2.1.3 When these Pass-Through Costs occur, Contractor will invoice City for these costs and may include a markup of up to five percent (5%).
- 2.1.4 Contractor shall provide supporting documentation such as invoices or receipts for all Pass-Through costs.
- 2.1.5 Except in the case of emergency, Contractor will notify the City in advance when these costs are anticipated.

- 2.2 Expenses shall be reimbursable only to the extent that the Contractor submits sufficient documentation to the City that the expenses were directly incurred in providing the requested services and that such costs are not already included in the fee or hourly rate.

3 PAYMENT PROVISIONS:

- 3.1 Monthly Invoices. On a monthly basis, Contractor shall prepare an invoice which includes an itemization of all time spent and activities performed.
- 3.2 Contractor shall maintain documentation of such time and costs for City inspection for a period of three (3) years from the date of termination of this Agreement.
- 3.3 Within thirty (30) days of receipt of an approved itemized written invoice from Contractor including submittal of certified payroll, City shall pay Contractor the amount billed for Services performed and authorized costs incurred under the Call during that billing period.

4 NOT TO EXCEED MAXIMUM AMOUNT:

In no event shall the amount billed to City by Contractor for services under this Agreement exceed eight hundred ten thousand six hundred eighty six dollars (\$810,686) during the Agreement term, subject to budget appropriations.

2020 Prevailing Wage Pricing Effective 1/15/2021



RO *Vibration Analysis*

- Standard Rate – per hour \$ 187.50
- Overtime - per hour \$ 281.25
- Double Time – per hour \$ 375
- Travel Time – per hour \$ 187.50
- Expenses Cost + 5%

RO *On-line Multi-channel Vibration Analysis*

- Standard Rate – per hour \$ 187.50
- Overtime - per hour \$ 281.25
- Double Time – per hour \$ 375
- Travel Time - per hour \$ 187.50
- Daily Multi-channel Equip (on site for extended time) \$ 185
- Daily Multi-channel Acc. (on site for extended time) \$ 65
- Expenses Cost + 5%

RO *On-line & Off-line Motor Analysis*

- Standard Rate – per hour \$ 187.50
- Overtime - per hour \$ 281.25
- Double Time – per hour \$ 375
- Travel Time – per hour \$ 187.50
- Expenses Cost + 5%

RO *Infrared Thermographic Analysis*

- Standard Rate – per hour \$ 187.50
- Overtime - per hour \$ 281.25
- Double Time – per hour \$ 375
- Travel Time – per hour \$ 187.50
- Expenses Cost + 5%

RO *Airborne Ultrasonic Analysis*

➤ Standard Rate – per hour	\$ 187.50
➤ Overtime - per hour	\$ 281.25
➤ Double Time – per hour	\$ 375
➤ Travel Time – per hour	\$ 187.50
➤ Expenses	Cost + 5%

RO *Transformer/Lubrication Oil Analysis*

➤ Standard Rate – per hour	\$ 187.50
➤ Overtime - per hour	\$ 281.25
➤ Double Time – per hour	\$ 375
➤ Travel Time – per hour	\$ 187.50
➤ Expenses	Cost + 5%

RO *Training/Reliability Programs/Consulting Services*

➤ Standard Rate – per hour	\$ 187.50
➤ Overtime - per hour	\$ 281.25
➤ Double Time – per hour	\$ 375
➤ Travel Time – per hour	\$ 187.50
➤ Expenses	Cost + 5%

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EXHIBIT F

LABOR COMPLIANCE ADDENDUM

This Agreement is subject to the requirements of California Labor Code section 1720 et seq. requiring the payment of prevailing wages, the training of apprentices, and compliance with other applicable requirements.

A. PREVAILING WAGE REQUIREMENTS

1. Contractor shall be obligated to pay not less than the General Prevailing Wage Rate, which can be found at www.dir.ca.gov, which shall be available to any interested party upon request. Contractor is also required to have a copy of the applicable wage determination posted and/or available at each job site.
2. Specifically, contractors are reminded of the need for compliance with Labor Code Section 1774-1775 (the payment of prevailing wages and documentation of such), Section 1776 (the keeping and submission of accurate certified payrolls) and 1777.5 in the employment of apprentices on public works projects. Further, overtime must be paid for work in excess of 8 hours per day or 40 hours per week pursuant to Labor Code Section 1811-1813.
3. Special prevailing wage rates generally apply to work performed on weekends, holidays and for certain shift work. Depending on the location of the project and the amount of travel incurred by workers on the project, certain travel and subsistence payments may also be required. Contractors and subcontractors are on notice that information about such special rates, holidays, premium pay, shift work and travel and subsistence requirements can be found at www.dir.ca.gov.
4. Only bona fide apprentices actively enrolled in a California Division of Apprenticeship Standards approved program may be employed on the project as an apprentice and receive the applicable apprenticeship prevailing wage rates. Apprentices who are not properly supervised and employed in the appropriate ratio shall be paid the full journeyman wages for the classification of work performed.

5. As a condition to receiving progress payments, final payment and payment of retention on any and all projects on which the payment of prevailing wages is required, Contractor agrees to present to City, along with its request for payment, all applicable and necessary certified payrolls (for itself and all applicable subcontractors) for the time period covering such payment request. The term "certified payroll" shall include all required documentation to comply with the mandates set forth in Labor Code Section 1720 et seq, as well as any additional documentation requested by the City or its designee including, but not limited to: certified payroll, fringe benefit statements and backup documentation such as monthly benefit statements, employee timecards, copies of wage statements and cancelled checks, proof of training contributions (CAC2 if applicable), and apprenticeship forms such as DAS-140 and DAS-142. Such payment shall be entered into the City's LCP Tracker system.
6. In addition to submitting the certified payrolls and related documentation to City, Contractor and all subcontractors shall be required to submit certified payroll records and related documents electronically to the California Department of Industrial Relations. Failure to submit payrolls to the DIR when mandated by the project parameters shall also result in the withholding of progress, retention and/or final payment.
7. No contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].
8. No contractor or subcontractor may be awarded a contract for public work on a public works project, unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5. Contractors MUST be a registered "public works contractor" with the DIR AT THE TIME OF BID. Where the prime contract is less than \$15,000 for maintenance work or less than \$25,000 for construction alternation, demolition or repair work, registration is not required.
9. All contractors/subcontractors and related construction services subject to prevailing wage, including but not limited to: trucking, surveying and inspection work must be registered with the Department of Industrial Relations as a "public works contractor". Those who fail to register and maintain their status as a public works contractor shall not be permitted to perform work on the project.
10. Should any contractor or subcontractors not be a registered public works contractor and perform work on the project, Contractor agrees to fully indemnify the City for any fines assessed by the California Department of Industrial Relations against the City for such violation, including all staff costs and attorney's fee relating to such fine.

11. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

B. AUDIT RIGHTS

All records or documents required to be kept pursuant to this Agreement to verify compliance with this Addendum shall be made available for audit at no cost to City, at any time during regular business hours, upon written request by the City Attorney, City Auditor, City Manager, or a designated representative of any of these officers. Copies of such records or documents shall be provided to City for audit at City Hall when it is practical to do so. Otherwise, unless an alternative is mutually agreed upon, the records or documents shall be made available at Contractor's address indicated for receipt of notices in this Agreement.

C. ENFORCEMENT

1. City shall withhold any portion of a payment; including the entire payment amount, until certified payroll forms and related documentation are properly submitted, reviewed and found to be in full compliance. In the event that certified payroll forms do not comply with the requirements of Labor Code Section 1720 et seq., City may continue to hold sufficient funds to cover estimated wages and penalties under the Agreement.
2. Based on State funding sources, this project may be subject to special labor compliance requirements of Proposition 84.
3. The City is not obligated to make any payment due to Contractor until Contractor has performed all of its obligations under these provisions. This provision means that City can withhold all or part of a payment to Contractor until all required documentation is submitted. Any payment by the City despite Contractor's failure to fully perform its obligations under these provisions shall not be deemed to be a waiver of any other term or condition contained in this Agreement or a waiver of the right to withhold payment for any subsequent breach of this Addendum.
4. City or the California Department of Industrial Relations may impose penalties upon contractors and subcontractors for failure to comply with prevailing wage requirements. These penalties are up to \$200 per day per worker for each wage violation identified; \$100 per day per worker for failure to provide the required paperwork and documentation requested within a 10-day window; and \$25 per day per worker for any overtime violation.