

**ACTION MINUTES OF
BOARD OF PUBLIC UTILITIES COMMISSIONERS
CITY OF TULARE**

November 1, 2018

A regular meeting of the Board of Public Utilities, City of Tulare was held on Thursday, November 1, 2018 at 4:00 p.m. in the Tulare Public Library & Council Chambers, 491 North "M" Street.

BPU PRESENT: Jim Pennington, Howard Stroman, Thomas Griesbach

BPU ABSENT: Chris Soria

STAFF PRESENT: Willard Epps, Jaskaran Gill, Michael Miller, Darlene Thompson, Trisha Whitfield, Nick Bartsch, Tim Doyle, Steve Bonville, Melissa Hermann

I. CALL TO ORDER REGULAR MEETING

President Pennington called the regular meeting to order at 4:03 p.m.

II. PLEDGE OF ALLEGIANCE AND INVOCATION

Board Member Griesbach led the Pledge of Allegiance and an invocation was given by Vice President Stroman.

III. CITIZEN COMMENTS

President Pennington requested those who wish to speak on matters not on the agenda within the jurisdiction of the Board, or to address or request a matter be pulled from the Consent Calendar to do so at this time. He further stated comments related to General Business matters would be heard at the time that matter is addressed on the agenda.

There were no citizen comments.

IV. COMMUNICATIONS

There were no items for this section.

V. CONSENT CALENDAR

It was moved by President Pennington, seconded by Board Member Griesbach and carried 3 to 0 (Board Member Soria absent) that the items on the Consent Calendar be approved as presented with the exception of item(s) 2.

- (1) **Approve minutes of October 18, 2018 regular meeting.**
- (2) **Accept the Public Works Project Dashboard for November 2018.**

Vice President Stroman pulled this item to inquire about the Annual Meter Replacement project. Water and Wastewater Collections Utility Manager Tim Doyle responded thereto. President Pennington inquired about various projects and ending dates. Senior Project Manager Nick Bartsch and Public Works Director Trisha Whitfield provided responses thereto. Following discussion, it was moved by Vice President Stroman, seconded by Board Member Griesbach and carried 3 to 0 (Board Member Soria absent) to accept the Public Works Project Dashboard for November 2018.

VI. GENERAL BUSINESS

- (1) **Review the proposed Well Ordinance and make recommendations to the City Council with regard to revising Title 7 to include Chapter 7.09, Well Ordinance to the City of Tulare Municipal Code, to effect the addition described in the ordinance as attached.**

Public Works Director Trisha Whitfield provided a report for the Board's review and consideration. Assistant City Attorney Jaskaran Gill provided additional wording in section 07.09.055 of the draft well ordinance to read "The owner of each well within the City of Tulare on which a water meter has been installed shall allow the City access to read said meter annually, by any lawful means, on or about October 1 or each year and not later than thirty (30) days thereafter."

Vice President Stroman suggested the title of the ordinance read "City of Tulare Wells Ordinance" instead of "Well Ordinance of the City of Tulare." Assistant City Attorney Jaskaran Gill advised the title proposed in the draft ordinance is consistent with other ordinance names.

Vice President Stroman suggested changes to the section 07.09.020, changing and adding language. Staff cautioned that changes to language will cause additional analysis by the legal team which will delay the passage of the ordinance. It was the consensus of the Board to not change section 07.09.020 as suggested.

Following discussion, it was moved by Board Member Griesbach, seconded by Vice President Stroman and carried 3 to 0 (Board Member Soria absent) to recommend, with the additional language provided by the City Attorney's Office, to the City Council with regard to revising Title 7 to include Chapter 7.09, Well Ordinance to the City of Tulare Municipal Code.

VII. ITEMS OF INTEREST

Items of Board interest were discussed amongst the Board and staff.

VIII. ADJOURN TO CLOSED SESSION PURSUANT TO GOVERNMENT CODE SECTION(S):

- (a) **54956.8(b) Conference with Real Property Negotiators**
Property: Well 43 (portion of APN 184-080-006)
Under Negotiation: Price, terms and conditions
Negotiating Parties: Willard Epps, Trisha Whitfield, Tim Doyle, Steve Bonville, City Attorney

President Pennington adjourned to closed session at 4:47 p.m.

IX. RECONVENE CLOSED SESSION

President Pennington reconvened from closed session at 5:10 p.m.

X. CLOSED SESSION REPORT (if any)

President Pennington advised there was no reportable action.

XI. ADJOURNMENT

President Pennington adjourned the regular meeting at 5:10 p.m.

President of the Board of Public Utilities
Commissioners of the City of Tulare

ATTEST:

Secretary of the Board of
Public Utilities Commissioners

**CITY OF TULARE, CALIFORNIA
BOARD OF PUBLIC UTILITIES COMMISSIONERS
AGENDA ITEM TRANSMITTAL SHEET**

Submitting Department: Finance

For Board Meeting of: November 15, 2018

Documents Attached: Ordinance Resolution Other None

AGENDA ITEM:

Accept the Financial Status Report.

IS PUBLIC HEARING REQUIRED: Yes No

BACKGROUND/EXPLANATION:

Solid Waste Fund 012

October 2018 service revenues are flat averaged over all service types. There is a slight increase in other revenues.

Salaries and benefits are up 8% due to the BPU decision to increase staffing. Other expenses are tracking at the same amount or slightly less than this time last year; all are within budget.

Water Fund 010

Water revenues are 13% higher than in October 2017 which are due to the rate increases.

Water operating expenses are flat and have not increased when compared to October 2017. Water projects are going strong and are not really comparable to last year when they were just starting. This year Projects are \$2,313,859 higher than last year.

WW Fund 015

WW revenue is 17% higher than the same period of fiscal year 2017. The service revenue increase is primarily due to the second year rate increases and increased usage by industrial users.

Overall expenses are slightly higher by 4% this year than last year primarily because of the annual expenses.

STAFF RECOMMENDATION:

Accept the Financial Status Report.

CITY ATTORNEY REVIEW/COMMENTS: Yes N/A

IS ADDITIONAL (NON-BUDGETED) FUNDING REQUIRED: Yes No N/A

FUNDING SOURCE/ACCOUNT NUMBER:

Submitted by: Darlene Thompson

Title: Finance Director

Date: November 7, 2018

City Manager Approval: _____

City of Tulare
Solid Waste Funds
Summary of Revenue/Expenditures -Budget to Actual
For the Four Months Ended
October 31, 2018

	Funds 012 - Solid Waste Operations												Fund 612 Capital		Solid Waste	
	Residential		Commercial		Street Sweeping		Roll-Offs		Other Revenue		Total		CIP		Total Solid Waste	
	Annual Budget FY 2019	Actual	Annual Budget FY 2019	Actual	Annual Budget FY 2019	Actual	Annual Budget FY 2019	Actual	Annual Budget FY 2019	Actual	Annual Budget FY 2019	Actual Total	Annual Budget FY 2019	Actual	12 Month Annual Budget FY 2019	Actual FY 2018
Revenues:																
Service Revenue - Operating Funds	\$ 5,089,810	\$ 1,680,094	\$ 1,731,890	\$ 524,425	\$ 1,030,420	\$ 277,017	\$ 727,980	\$ 350,231			\$ 8,580,100	\$ 2,831,768			\$ 8,580,100	\$ 2,831,768
Recycle Sales	46,820	7,504	20,000	4,528	-	-	4,500	506		\$ -	71,320	12,538			71,320	12,538
Miscellaneous Revenue									215,000	332,694	215,000	332,694			215,000	332,694
Interfund Loan Repayment									128,910		128,910	-			128,910	-
Total Revenues	5,136,630	1,687,598	1,751,890	528,954	1,030,420	277,017	732,480	350,737	343,910	332,694	8,995,330	3,177,000	-	-	8,995,330	3,177,000
Expenditures:																
Operations																
Salaries & Benefits	1,697,940	644,590	920,230	326,685	309,800	113,363	209,070	101,825			3,137,040	1,186,464			3,137,040	1,186,464
Maintenance & Operations	2,385,090	672,476	1,221,610	291,504	407,500	108,970	548,950	137,609			4,563,150	1,210,560			4,563,150	1,210,560
Annual Admin, Franchise & IT Fees	199,000	143,000	87,620	87,620	14,210	14,210	26,200	26,200			327,030	271,030			327,030	271,030
Depreciation	7,010	2,961					-				7,010	2,961			7,010	2,961
Transfers to Technology CIP	6,150	6,150					-				6,150	6,150			6,150	6,150
Total Operations	4,295,190	1,469,177	2,229,460	705,810	731,510	236,544	784,220	265,634	-	-	8,040,380	2,677,164	-	-	8,040,380	2,677,164
Net Revenue from Operations	841,440	218,420	(477,570)	(176,856)	298,910	40,474	(51,740)	85,104	343,910	332,694	954,950	499,836	-	-	954,950	499,836
Other Expenditures																
Capital Outlay																
Special M & O																
CIP Expenditures	160,000		66,000				43,500	41,411			269,500	41,411	42,759	38,746	312,259	80,156
Total Capital Expenditures	160,000	-	66,000	-	-	-	43,500	41,411	-	-	269,500	41,411	42,759	38,746	312,259	80,156
Operating Transfers In(Out)	(300,000)	(300,000)	(100,000)	(100,000)	(50,000)	(50,000)	(50,000)	(50,000)			(500,000)	(500,000)	500,000		(500,000)	-
Net Revenue/(Expenditures)	\$ 381,440	\$ (81,580)	\$ (643,570)	\$ (276,856)	\$ 248,910	\$ 40,474	\$ (145,240)	\$ 43,693	\$ 343,910	\$ 332,694	\$ 185,450	\$ (41,575)	\$ (42,759)	\$ 461,254	\$ 142,691	\$ 419,680
Unadjusted Cash Balance at October 31, 2018																\$ 5,868,876

Expenses paid in July and August for June activities are included in the previous fiscal year's expense as the City uses a Modified Accrual Basis of accounting.

City of Tulare
Water Utility Funds
Summary of Revenue/Expenditures -Budget to Actual
For the Four Months Ended
October 31, 2018

	Fund 010 Water Operations										Fund 610 Capital		Fund 680 Reserves		Water Funds			
	Admin		Distribution		Extraction		Treatment		Groundwater		Total Water Operations		CIP		Reserves		Total Water Funds	
	Annual Budget FY 2019	Actual	Annual Budget FY 2019	Actual	Annual Budget FY 2019	Actual	Annual Budget FY 2019	Actual	Annual Budget FY 2019	Actual	Annual Budget FY 2019	Actual	Annual Budget FY 2019	Actual	Annual Budget FY 2019	Actual	Annual Budget FY 2019	Actual
Revenues:																		
Service Revenue - Operating Funds											\$ 7,863,370	\$ 2,926,013	\$ 2,596,570	\$ 990,978	\$ 1,310,000	\$ 469,554	\$ 11,769,940	\$ 4,386,544
Water Recharge Component											220,000	104,541					220,000	104,541
State Revolving Fund																	-	-
Water Waste Fees											60,000	21,045					60,000	21,045
Miscellaneous Revenue											1,100,260	199,811					1,100,260	199,811
Interfund Loan Repayment																		
Water Bond Proceeds																		
Total Revenues	-	-	-	-	-	-	-	-	-	-	9,243,630	3,251,410	2,596,570	990,978	1,310,000	469,554	13,150,200	4,711,942
Expenditures:																		
Operations																		
Salaries & Benefits	557,620	177,334	907,290	323,527	191,500	70,042	137,120	49,460	63,290	22,498	1,856,820	642,861					1,856,820	642,861
Maintenance & Operations	360,310	152,885	212,640	54,197	1,742,230	533,739	241,750	42,591	1,160,870	52,492	3,717,800	835,904					3,717,800	835,904
Annual Admin, Franchise & IT Fees	121,980	92,080	478,570	478,570	19,520	19,520	7,890	7,890	10,100	10,100	638,060	608,160					638,060	608,160
Depreciation	6,270	2,090	977,020	337,828	236,330	86,536	1,820	605			1,221,440	427,059					1,221,440	427,059
Transfers to Surface Water									683,300	683,300	683,300	683,300					683,300	683,300
Transfers to Technology CIP		7,350	-	-							-	7,350					7,350	7,350
Total Operations	1,046,180	431,739	2,575,520	1,194,122	2,189,580	709,837	388,580	100,547	1,917,560	768,391	8,117,420	3,204,635	-	-	-	-	8,124,770	3,204,635
Net Revenue from Operations											1,126,210	46,775	2,596,570	990,978	1,310,000	469,554	5,025,430	1,507,307
Other Expenditures																		
Capital Outlay																		
Special M & O			125,000	-	125,000	-	-	-	-	-	250,000	-					250,000	-
CIP Expenditures			123,000	8,241							123,000	8,241	8,760,350	2,633,925			8,883,350	2,642,166
Total Capital Expenditures	-	-	248,000	8,241	125,000	-	-	-	-	-	373,000	8,241	8,760,350	2,633,925	-	-	9,133,350	2,642,166
Debt Service																		
Debt Service	991,730	504,035	552,980	(98,630)	552,980	(32,492)	-	-	-	-	2,097,690	372,914					2,097,690	372,914
Total Debt Service	991,730	504,035	552,980	(98,630)	552,980	(32,492)	-	-	-	-	2,097,690	372,914					2,097,690	372,914
Total Other Expenditures	991,730	504,035	800,980	(90,389)	677,980	(32,492)	-	-	-	-	2,470,690	381,155	8,760,350	2,633,925	-	-	11,231,040	3,015,080
Operating Transfers In(Out)											507,660	-					507,660	-
Net Revenue/(Expenditures)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (836,820)	\$ (334,380)	\$ (6,163,780)	\$ (1,642,947)	\$ 1,310,000	\$ 469,554	\$ (5,697,950)	\$ (1,507,773)
Unadjusted Cash Balance at October 31, 2018																		\$ 10,189,082

Expenses paid in July and August for June activities are included in the previous fiscal year's expense as the City uses a Modified Accrual Basis of accounting.

City of Tulare
Sewer/Wastewater Utility Funds
Summary of Revenue/Expenditures -Budget to Actual
For the four Months Ended
October 31, 2018

	Funds 015 Sewer - Wastewater Operations											Fund 615 Capital		Fund 685 Reserves		Sewer Wastewater				
	Sewer Collection		Domestic Wastewater		Industrial Wastewater		Pretreatment		Energy		Total Sewer Wastewater Operations		CIP		Reserves		Total Funds			
	Annual Budget FY 2019	Actual	Annual Budget FY 2019	Actual	Annual Budget FY 2019	Actual	Annual Budget FY 2019	Actual	Annual Budget FY 2019	Actual	Annual Budget FY 2019	Actual	Annual Budget FY 2019	Actual	Annual Budget FY 2019	Actual	Annual Budget FY 2019	Actual	FY 2018	FY
Revenues:																				
Service Revenue - Operating Funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 24,035,350	\$ 7,018,461	\$ 9,580,530	\$ 2,797,293	\$ 2,131,200	\$ 560,000	\$ 35,747,080	\$ 10,375,755		
Miscellaneous Revenue											2,912,260	140,482					2,912,260	140,482		
Total Revenues	-	-	-	-	-	-	-	-	-	-	26,947,610	7,158,943	9,580,530	2,797,293	2,131,200	560,000	38,659,340	10,516,236		
Expenditures:																				
Operations																				
Salaries & Benefits	772,280	257,551	1,121,540	393,827	1,357,140	514,500	100,290	34,678	17,120	4,498	3,368,370	1,205,055					3,368,370	1,205,055		
Maintenance & Operations	1,283,440	340,465	2,594,431	744,645	2,988,060	762,267	42,270	5,975	667,577	140,158	7,575,778	1,993,511	197,330				7,773,108	1,993,511		
Annual Admin, Franchise & IT Fees	74,790	57,240	129,090	103,740	112,690	80,640	2,960	2,960	(1,310)	(1,310)	318,220	243,270					318,220	243,270		
Depreciation	1,354,990	454,244	1,030,040	328,453	2,862,060	952,418			510,810	170,270	5,757,900	1,905,385					5,757,900	1,905,385		
Transfers to Surface Water			437,520	437,520							437,520	437,520					437,520	437,520		
Transfers to Technology CIP	-	-	12,290	12,290							12,290	12,290					12,290	12,290		
Total Operations	3,485,500	1,109,500	5,324,911	2,020,476	7,319,950	2,309,826	145,520	43,613	1,194,197	313,616	17,470,078	5,797,032	197,330	-	-	-	17,667,408	5,797,032		
Net Revenue from Operations											9,477,532	1,361,911	9,383,200	2,797,293	2,131,200	560,000	20,991,932	4,719,205		
Other Expenditures																				
Capital Outlay																				
Special M & O	250,000		63,000		665,000	53,793					978,000	53,793					978,000	53,793		
CIP Expenditures			40,000		130,410	130,410					170,410	130,410	3,155,145	(19,445)			3,325,555	110,965		
Total Capital Expenditures	250,000	-	103,000	-	795,410	184,204	-	-	-	-	1,148,410	184,204	3,155,145	(19,445)	-	-	4,303,555	164,759		
Debt Service																				
Debt Service	764,340	(87,625)	4,053,490	(303,827)	9,843,970	(996,654)			626,320	(43,134)	15,288,120	(1,431,240)					15,288,120	(1,431,240)		
Total Debt Service	764,340	(87,625)	4,053,490	(303,827)	9,843,970	(996,654)	-	-	626,320	(43,134)	15,288,120	(1,431,240)	-	-	-	-	15,288,120	(1,431,240)		
Total Other Expenditures	1,014,340	(87,625)	4,156,490	(303,827)	10,639,380	(812,450)	-	-	626,320	(43,134)	16,436,530	(1,247,037)	3,155,145	(19,445)	-	-	19,591,675	(1,266,481)		
Operating Transfers In(Out)			-		-	-	-	-	-	-	-	-	(517,250)	-	-	-	(517,250)	-		
Net Revenue/(Expenditures)											\$ (6,958,998)	\$ 2,608,948	\$ 5,710,805	\$ 2,816,738	\$ 2,131,200	\$ 560,000	\$ 883,007	\$ 5,985,686		
Unadjusted Cash Balance at October 31, 2018																			\$ 28,017,901	

Expenses paid in July and August for June activities are included in the previous fiscal year's expense as the City uses a Modified Accrual Basis of accounting.

**CITY OF TULARE, CALIFORNIA
BOARD OF PUBLIC UTILITIES COMMISSIONERS
AGENDA ITEM TRANSMITTAL SHEET**

Submitting Department: Public Works – Solid Waste

For Board Meeting of: November 15, 2018

Documents Attached: Ordinance Resolution Other None

AGENDA ITEM:

Award the purchase of four (4) replacement automated side loader and two (2) replacement front loader refuse trucks with the Bridgeport body style to EM Tharp Inc. in the amount of \$1,707,757.94, including tax and license.

IS PUBLIC HEARING REQUIRED: Yes No

BACKGROUND/EXPLANATION:

Bid No. 19-671 for four side loader and two front loader refuse trucks was advertised on October 8, 2018 and bids were opened on November 7, 2018. The following bids were received:

<u>Company</u>	<u>Location</u>	<u>Body Type</u>	<u>Amount</u>
E.M. Tharp	Porterville	Ray Gaskin Services	\$1,730,529.40
E.M. Tharp	Porterville	Bridgeport	\$1,707,757.94

Both bids included diesel engines and Peterbilt cab and chassis. EM Tharp is the dealer of Peterbilt trucks which we currently have in the refuse fleet and has a factory warranty station in Porterville. The Bridgeport body was the lowest bid and met all bid specifications and their factory warranty station is in Visalia.

This equipment purchase is funded in part by a Congestion Mitigation and Air Quality (CMAQ) Program grant implemented through Caltrans. Through this grant funding, Caltrans funds 88.52% of the purchase price of the trucks and the City is required to pay the other 11.48% grant match. This is a reimbursement grant program, and Caltrans reimbursement amount to the city will be \$1,511,707.33, making the City's actual contribution amount for the 6 refuse trucks as \$196,050.61.

Staff is recommending the award of bid No 19-671 to EM Tharp Inc. for the purchase of 4 side loader and 2 front loader refuse trucks with the Peterbilt cab and chassis and Bridgeport bodies, as the lowest responsive bidder, meeting and/or satisfying the bid specification requirements. The six refuse trucks are included in the 2018/2019 budget and the proposal is within the budgeted amount of \$1,820,000.00.

STAFF RECOMMENDATION:

Award the purchase of four (4) replacement automated side loader and two (2) replacement front loader refuse trucks with the Bridgeport body style to EM Tharp Inc. in the amount of \$1,707,757.94, including tax and license.

CITY ATTORNEY REVIEW/COMMENTS: Yes N/A

IS ADDITIONAL (NON-BUDGETED) FUNDING REQUIRED: Yes No N/A

FUNDING SOURCE/ACCOUNT NUMBER:

Submitted by: Frank Rodriguez

Title: Solid Waste Manager

Date: November 7, 2018

City Manager Approval: _____

City of Tulare

Bid 19-671 – Six (6) Solid Waste Trucks
 Wednesday, November 7, 2018 – 10:30 p.m.

	NAME OF COMPANY	CITY	AMOUNT
1	EM Sharpe, Inc. - Bridgeport	Porterville, Ca	\$ 1,707,757. ⁹⁴
2	EM Sharpe, Inc - RGS	Porterville, Ca	\$ 1,730,529. ⁴⁰
3			\$
4			\$
5			\$
6			\$
7			\$
8			\$
9			\$
10			\$
11			\$
12			\$
13			\$
14			\$

ATTESTED AND OPENED BY: [Signature]
 Chief Deputy City Clerk

RECORDED BY: [Signature]



WITNESS: [Signature]

Note: Bids/RFP's are subject to review and verification.

**CITY OF TULARE, CALIFORNIA
BOARD OF PUBLIC UTILITIES COMMISSIONERS
AGENDA ITEM TRANSMITTAL SHEET**

Submitting Department: Public Works – Water

For Board Meeting of: November 15, 2018

Documents Attached: Ordinance Resolution Other None

AGENDA ITEM:

Accept the Public Works Monthly Water System Report.

IS PUBLIC HEARING REQUIRED: Yes No

BACKGROUND/EXPLANATION:

Resolution 16-19, adopted by the Board on November 15, 2016 directs the Public Works Director to provide monthly reports regarding the status of new connections and water system performance.

Staff has identified at prior BPU meetings that the water system has been performing well after benefitting from a variety of rehabilitation projects. The assumptions that were built into the original water model that projected 952 remaining connections are no longer valid as the completed rehabilitation projects have beneficially impacted the health of the water system. However, because the target of 952 connections is no longer applicable the ‘Remaining Connections’ column has been removed.

Definitions:

Total System Delivery Capacity

The total delivery capacity of the city wells based on their potential production expressed in terms of Million Gallons per Day (MGD).

System Capacity Loss

The difference between the volume of water produced and the volume of water delivered through meters expressed in MGD. This encompasses capacity lost through pipe leakage, breaks and system maintenance operations such as flushing and sampling.

Connections

The number of new connections completed is reported on a monthly basis by the Development Services Department.

Monthly Total Demand

Monthly Total Demand is the average volume of water delivered through retail meters expressed in MGD.

Peak Hour Demand

Peak Hour Demand is a calculated estimate of the effective demand on the City water system during the highest use periods of the month expressed in MGD.

Average Max Day Pressure

The Average Max Day Pressure is the average of the high pressure data points recorded in the SCADA system for each well site, each day of the month expressed in PSI.

Peak Minimum Pressure

Peak Minimum Pressure is the average of the lowest pressure data points recorded in the SCADA system for each well site, each day of the month expressed in PSI.

Pressure Standards

The minimum daily pressure standard is 30 psi. The target daily average standard psi is 35 or higher.

STAFF RECOMMENDATION:

Accept the Public Works Monthly Water System Report.

CITY ATTORNEY REVIEW/COMMENTS: Yes N/A

IS ADDITIONAL (NON-BUDGETED) FUNDING REQUIRED: Yes No N/A

FUNDING SOURCE/ACCOUNT NUMBER:

Submitted by: Trisha Whitfield

Title: Public Works Director

Date: November 7, 2018

City Manager Approval: _____

**CITY OF TULARE, CALIFORNIA
BOARD OF PUBLIC UTILITIES COMMISSIONERS
AGENDA ITEM TRANSMITTAL SHEET**

Submitting Department: Public Works

For Board Meeting of: November 15, 2018

Documents Attached: Ordinance Resolution Other None

AGENDA ITEM:

Receive the Fuel Cell Performance report for September 2018.

IS PUBLIC HEARING REQUIRED: Yes No

BACKGROUND/EXPLANATION:

The Board of Public Utilities requested Staff to begin providing monthly reports on the performance of the natural gas fuel cell at the March 1, 2018 meeting. Currently data is being pulled from monthly invoices received from NRG Energy, Inc. (NRG), Southern California Edison (SCE), Southern California Gas (SCG) and Direct Energy (DE).

In the June 2018 dashboard Staff reported that there is a problem related to demand charges and the manner in which the net metering tariff is being applied to the fuel cell and the on-site meters it is designed to serve. On September 19, 2018 staff met with Fuel Cell Energy (FCE) and presented them with the fuel cell dashboards and the findings from Southern California Edison regarding the change in tariffs.

On November 1, 2018 staff met with FCE, Clearway Energy (formally NRG) and Hydros Agritech to discuss FCE's findings. FCE summarized their findings into three categories:

1. NEM Tariff – meet with SCE to discuss receiving demand credit on both accounts (industrial and domestic), option to have meters share demand charge under the Virtual Net Metering Tariff
2. Update City modeling after meeting with SCE
3. Natural Gas fuel cell tripping (largely turning off because of site conditions) – FCE has a corrective action plan to address over 80% of the trip conditions

With those findings it was determined that our next step would be to meet with SCE to discuss the NEM Tariff and application of credits and demand charges. In addition, attached to the transmittal is the BPU transmittal from October 26, 2016 when the Board awarded the Natural Gas fuel cell PPA to FCE. The original estimate for savings to the City in year 1 was \$399,000. Over the 20 year PPA, the average annual savings was \$900,000. According to the original analysis, the City won't start to see those savings until around year 9. Staff will continue to work with Fuel Cell Energy and SCE and resolve the issues/concerns at hand.

If some of the concerns with the SCE billing/tariff cannot be resolved, Staff has the quotes and proposals previously received from several Consultants that specialize in tariffs, energy analysis and the energy industry in general to provide a third party analysis and assessment of the City's fuel cell project. If Fuel Cell Energy and/or SCE is unable to make any changes or recommendations to fix the demand charges and tariff assigned to the fuel cell, staff will follow-up with a consultant for additional review.

Although the fuel cell IS generating some beneficial credit, it will not be realized until the end of year one. This credit is estimated by Fuel Cell Energy to be \$394,000.

There continues to be a problem with demand charges reducing the cost savings that the fuel cell was intended to provide. The increased demand charges are largely linked to the occasional "tripping" off of the fuel cell unit. When the unit trips off, our SCE electric usage increases and the demand charge is triggered. Fuel Cell Energy has identified the site conditions that are causing this to occur as described above and has implemented changes to address the issue. This can be seen in the increase cost as compared to the prior year (Attachment A) and the continued increased Effective rate (Attachment B).

STAFF RECOMMENDATION:

Receive the Fuel Cell Performance report for September 2018.

CITY ATTORNEY REVIEW/COMMENTS: Yes N/A

IS ADDITIONAL (NON-BUDGETED) FUNDING REQUIRED: Yes No N/A

FUNDING SOURCE/ACCOUNT NUMBER:

Submitted by: Trisha Whitfield

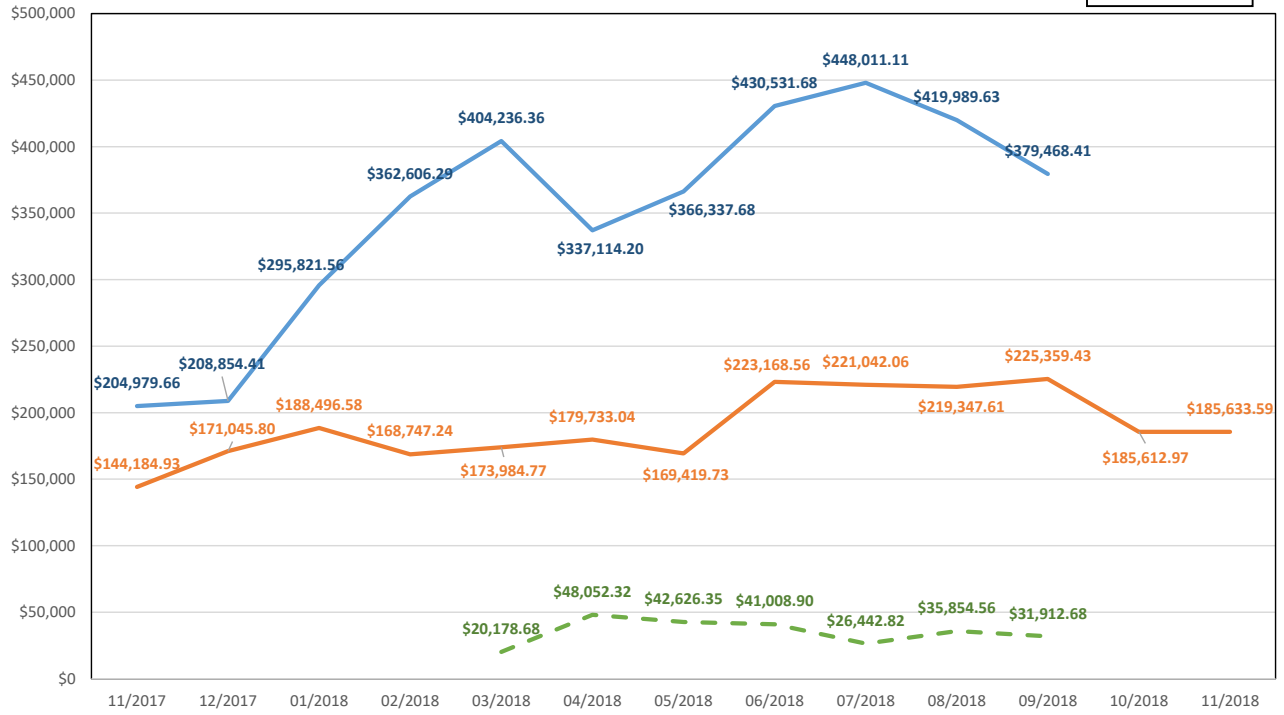
Title: Public Works Director

Date: November 7, 2018

City Manager Approval: _____

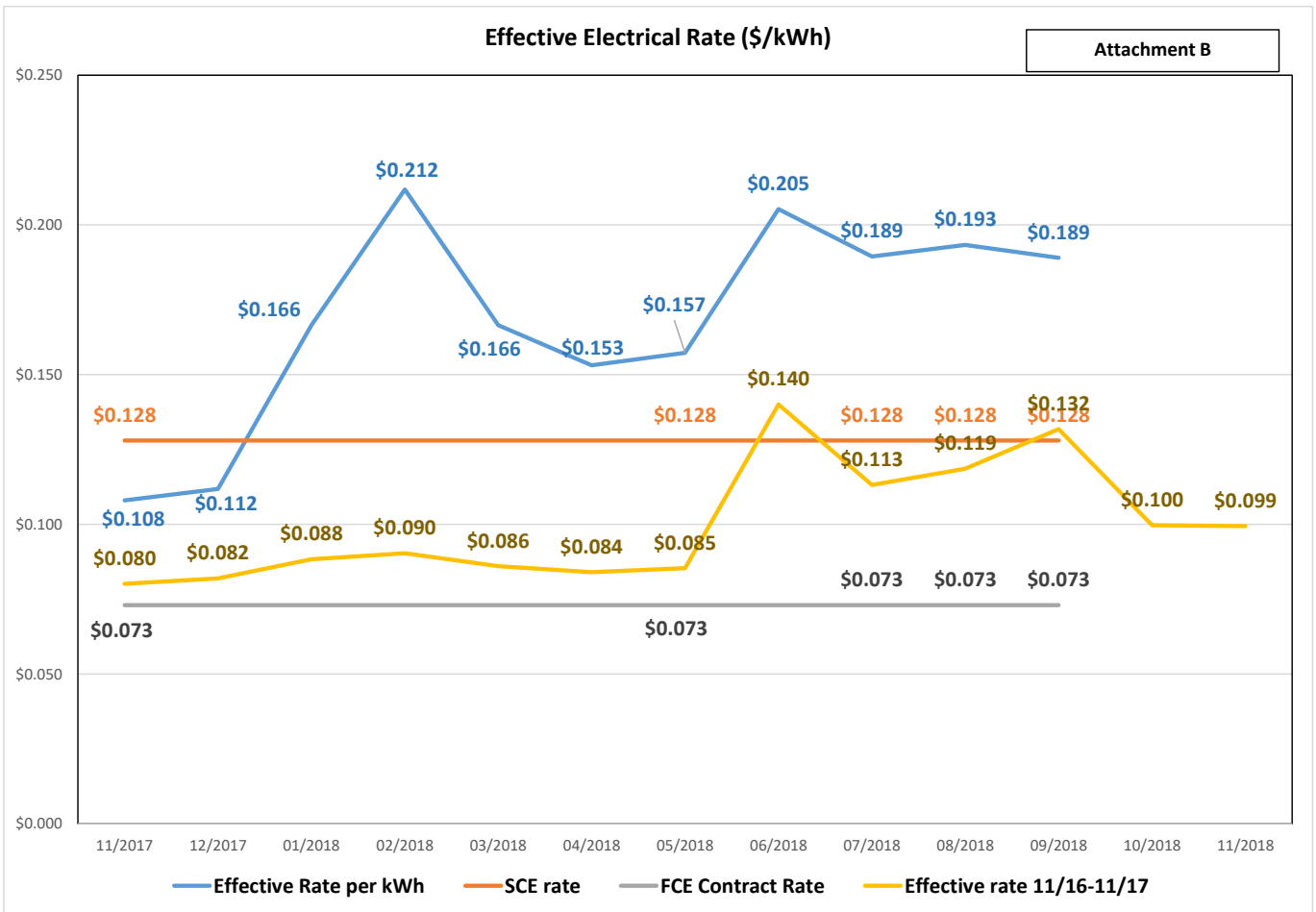
WWTP Elect. Costs (\$)

Attachment A



— Total Ind/Dom Energy Cost 11/17-11/18
 — Ind/Dom Cost 11/16-11/17
 - - - NEM Export Credit 11/17-11/18

**City of Tulare
Natural Gas Fuel Cell Dash 9/18**



**CITY OF TULARE, CALIFORNIA
BOARD OF PUBLIC UTILITIES COMMISSIONERS
AGENDA ITEM TRANSMITTAL SHEET**

Submitting Department: Public Works

For Board Meeting of: October 26, 2016

Documents Attached: Ordinance Resolution Staff Report Other None

AGENDA ITEM:

Approve a twenty (20) year Power Purchase Agreement with Fuel Cell Energy of Danbury, Connecticut, and one of two gas purchase agreement alternatives 1) a fixed rate of \$4.00 per MMBtu or 2) a variable monthly index price, with Direct Energy of Houston, Texas for three (3) years, subject only to minor conforming or clarifying changes acceptable to the City Attorney; and authorize the City Manager to execute the approved agreements.

IS PUBLIC HEARING REQUIRED: Yes No

BACKGROUND/EXPLANATION:

On August 18, 2016 the Board of Public Utilities was updated on the progress of discussions with Fuel Cell Energy (FCE) regarding the City's purchase of electricity from a 2.8 MW fuel cell to be located on City property. The unit will be owned, operated, and maintained by FCE. FCE will also deliver thermal energy (hot water) from the fuel cell to the City at no cost. Since the last update, the City has pursued negotiations for a power purchase agreement (PPA) between FCE and the City for a duration of 20 years that is consistent with FCE's proposal for the use of pipeline gas for their fuel cells as presented to the Board.

In order to reduce risk of natural gas price escalations, and improve the City's overall savings, FCE assisted the City in locating a natural gas supplier, and the City has been negotiating a gas supply contract to accompany the PPA. FCE's original proposal contained pricing and likely savings amounts projecting natural gas purchases from SoCal Gas. Natural Gas is a "deregulated" commodity and as such, customers are free to purchase from third parties. In these instances, the utility, here SoCal Gas, is paid to transport and distribute the commodity. Where gas is purchased from a third party, the utility distribution rates must be added to the commodity price to determine the total cost of gas service.

If the City chooses to enter into a PPA with FCE, it may also enter into an agreement to purchase natural gas from Direct Energy, but it is not required to do so.

Project Description:

- Fuel Cell Energy 2.8 MW DFC3000 fuel cell power plant installed at the City of Tulare Wastewater Treatment Plant (WWTP)
- 20-year Power Purchase Agreement
- Full turnkey engineering, permitting and construction (EPC) project by FCE
- Waste heat recovered, converted to hot water, and supplied to the WWTP by FCE at no cost
- Natural gas fuel supplied by City of Tulare under contract with Direct Energy (third party) or SoCal Gas.

DISCUSSION:

The City has worked with FCE to address topics on interconnection, applicable tariffs, natural gas costs and a commitment for re-application for the self-generation incentive program in 2017.

NEW NET METERING TARIFF:

Since the Board's last update, the State has enabled a new tariff applicable to fuel cell installations up to 5MW, which was previously not available to the City's project. On September 26, 2016 Governor Brown signed AB1637 into state law, officially enacting the new 5 MW NEM tariff for fuel cell projects in California. The text of the law can be found at:

https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=201520160AB1637.

The new Fuel Cell NEM will have three positive impacts on the City 2.8 MW fuel cell project:

1. The project will be exempt from Departing Load Charges which otherwise may have been applicable, pursuant to Section 2.2827.10(e)(1). On previous projects in SCE territory, FCE has confirmed that Standby Charges and Departing Load Charges amount to conservatively 1.5 cents per kWh of on-site generation. Applying this cost to the annual electricity production of the fuel cell, which is on average 21,000 MWH per year, may result in an annual average cost of over \$300,000 which will not be charged to the project, totaling about \$6 million over 20 years based on initial analysis of use at the WWTP. (This number is an approximation based on the statute language, because SCE has not published the tariff at this time.)
2. Under the NEM tariff, SCE shall apply any excess electricity produced by the fuel cell plant, which is not consumed behind the WWTP meter, to the monthly electric bills associated with other meters located on the property of the WWTP or adjacent properties owned by the City, pursuant to the requirements of Section 2.2827.10(f)(1). Under currently effective tariffs, the City would not be able to use this power, but would have to export it to the grid at wholesale rather than displacing more expensive grid power.

3. Previously, the City had contemplated hard-wiring the electrical circuits of the WWTP Domestic side and the Industrial side together at a significant cost, which would allow for all the electricity produced by the fuel cell to be consumed behind the resulting combined meter. With the extension and expansion of the fuel cell NEM program, this will no longer be necessary and offsets a huge capital cost.

NOTE: To be eligible for the new fuel cell NEM tariff, the FCE fuel cell will have to meet Ground House Gas (GHG) emission reduction standards that California Air Resources Board (CARB) is required to develop by March 31, 2017, and the City will have to meet certain utility customer criteria. It is currently anticipated that both of these requirements can be met. Additionally, SCE will have to obtain California Public Utilities Commission approval of tariff revisions necessary to implement the new fuel cell NEM. The statute does not contain a deadline for finalizing such tariff revisions, though a July 2017 deadline is anticipated. Accordingly, it is possible that the fuel cell would operate under the current applicable SCE tariffs, subject to Standby Charges Departing Load Charges and the requirement to sell excess power at wholesale, for a limited period of time after the Commercial Operation Date.

SELF GENERATION INCENTIVE PROGRAM (SGIP):

Staff submitted an application for SGIP funding in February 2016 in pursuit of grant funding for a portion of this project. The Board approved the application request and appropriated funding for fees not to exceed \$40,000 during the February 18, 2016 meeting. On April 7, 2016, Staff updated the Board on the status of that application. The application had been submitted on February 23, on-time, to SoCal Gas and SoCal Edison. At that time, the grant applications were still under review with no date of determination identified.

While the project was not awarded 2016 SGIP funding, the project will be eligible to apply in 2017. If successful, an incentive potentially valued at \$1.68 million over five years would be paid to the City. FCE has not included any SGIP funding expectation in its PPA price, therefore all of the SGIP incentive would be paid directly to the City. FCE has agreed to prepare the application at its expense. It is important to note that while the SGIP program is available for fuel cell projects running on pipeline gas, the recent changes in that program require use of 10% biogas with this amount increasing over the years. The program will require additional costs for monitoring equipment. The City will need to complete an analysis before concluding that it is worthwhile to apply for this incentive.

THIRD PARTY GAS PURCHASE:

FCE has assisted the City in obtaining a contract proposal from Direct Energy for the purchase of natural gas rather than purchasing the commodity from SoCal Gas. There are two alternative contracts:

- The first is a contract with three to five year increments for the duration of the project. The proposed initial three-year term is for October 1, 2017 through September 30, 2020 and represents a significant savings over the rate originally

contemplated for this project. This price is fixed with no escalation over the initial three-year term of the agreement. Transportation costs will still be paid to Southern California Gas Company (SoCal Gas).

- The second alternative is to purchase gas at the current index price, which would still provide a savings over SoCal Gas. Currently there is a \$0.65 per MMBTU difference between SoCal Gas and Direct Energy. See attachment 1 concerning index pricing. In this alternative, the Board may choose to use the above described index option that eliminates the volumetric risk and historically has provided significant savings over purchases from the gas utility.

Currently the WWTP is on a core tariff rate (GN-10, non-residential) with an average delivery/transport cost of \$2.15 per MMBtu and will be paid to SoCal Gas regardless of who the commodity is purchased from.

If the new 2.8 MW fuel cell were to enter service today, the applicable transport tariff would be GTS-FD (non-core, firm delivery) with an expected cost of \$1.44 per MMBtu. This tariff is available for all new fuel cells installed before November 1, 2016. SoCal Gas expects the new fuel cell plant to be on a GT-NG5D tariff, which is expected to lower transport costs in two ways: first, it will eliminate interruptible service; and second, it will be a tiered structure.

The table below shows the impact on the fuel cell project savings resulting from the lower gas as compared to the \$6.00/MMBtu which was assumed in the original proposal. The column marked "2%" is the same as the far right column in Table 1. The other columns show the effect on savings associated with various gas price escalation rates. This is presented for illustration purposes only.

Gas price impact on Savings, and sensitivity to gas price escalation.

Savings sensitivity (as a function of gas price annual escalation) (In thousands)					
Year	2.00%	2.50%	3.00%	3.50%	4.00%
1	\$ 399	\$ 399	\$ 399	\$ 399	\$ 399
2	\$ 445	\$ 445	\$ 445	\$ 445	\$ 445
3	\$ 491	\$ 491	\$ 491	\$ 491	\$ 491
4	\$ 482	\$ 469	\$ 455	\$ 440	\$ 426
5	\$ 528	\$ 514	\$ 500	\$ 486	\$ 472
6	\$ 745	\$ 732	\$ 718	\$ 705	\$ 691
7	\$ 780	\$ 751	\$ 720	\$ 689	\$ 657
8	\$ 850	\$ 821	\$ 790	\$ 759	\$ 727
9	\$ 922	\$ 892	\$ 862	\$ 831	\$ 799

10	\$ 934	\$ 887	\$ 837	\$ 786	\$ 732
11	\$ 1,009	\$ 961	\$ 912	\$ 860	\$ 807
12	\$ 1,084	\$ 1,037	\$ 987	\$ 936	\$ 882
13	\$ 1,326	\$ 1,260	\$ 1,191	\$ 1,118	\$ 1,040
14	\$ 1,460	\$ 1,392	\$ 1,321	\$ 1,245	\$ 1,166
15	\$ 1,555	\$ 1,487	\$ 1,415	\$ 1,340	\$ 1,260
16	\$ 1,582	\$ 1,492	\$ 1,395	\$ 1,291	\$ 1,180
17	\$ 1,681	\$ 1,590	\$ 1,493	\$ 1,389	\$ 1,278
18	\$ 1,781	\$ 1,690	\$ 1,593	\$ 1,489	\$ 1,378
19	\$ 1,810	\$ 1,693	\$ 1,567	\$ 1,430	\$ 1,281
20	\$ 1,818	\$ 1,702	\$ 1,576	\$ 1,438	\$ 1,290
total	\$ 21,682	\$ 20,704	\$ 19,667	\$ 18,568	\$ 17,403

In this example, if natural gas escalates at 2% a year, the anticipated savings using an anticipated lower base number for natural gas per MMBtu is \$21,682,000 over the term. If it is at 4% annually, the savings are reduced to \$17,403,000. These savings numbers do not reflect the benefit of the new tariff or possible SGIP discussed above.

As a comparison, the “Natural Gas Burner Tip Prices” for California as provided by the California Energy Commission are attached. A burner tip price includes the cost to procure and deliver natural gas to a gas-fired electric generator. This price includes both a commodity and a transportation component. Please see Exhibit “A”. This exhibit forecasts about an average of 2.0%/yr. for the years 2017 through 2020.

SAVINGS TO THE CITY OVER SCE PRICING:

FCE estimates the savings to the City of Tulare from the fuel cell project in the table below. Three columns are presented. In the first column, savings as estimated in the original proposal in response to the City’s RFP are presented. Subsequent to this, in July 2016 the City was notified by Southern California Edison (SCE) that its application for Self-Generation Incentive Funding (SGIP) was not successful. FCE adjusted the PPA rate to account for this lack of 2016 SGIP incentive funding, as shown in the second column in the table. Finally, FCE was able to identify a third party natural gas supplier with competitive pricing. The improved natural gas pricing as compared to the original proposal nearly made up for the loss in SGIP funding, as shown in the third column. In summary, this fuel cell PPA project, subject to final contracting, may save the City of Tulare nearly \$18 million over 20 years, with an average savings of \$891,000 per year. This savings number is exclusive of potential savings offered by the SGIP if received by the City in 2017. Additional savings are also available under the new NEM tariff that allows the application of excess electricity produced by the fuel cell plant, which is not consumed behind the WWTP meter, to the monthly electric bills associated with other meters located on the property of the WWTP or adjacent properties owned by the City.

Table 1: Fuel cell project estimate of savings (for illustration purposes only)

	Original Proposal dated 2/25/16	"No SGIP" case dated 7/26/16	Updated 10/12/16
INPUTS:			
PPA price (\$/kWh)	\$0.0675	\$0.0730	\$0.0730
PPA annual escalation	2.5%	2.5%	2.5%
SCE Utility Cost (\$/kWh)	\$0.128	\$0.128	\$0.128
SCE annual escalation	4.0%	4.0%	4.0%
Natural Gas cost (\$/MMBtu HHV)	\$6.00	\$6.00	\$4.90
Annual escalation	2.0%	2.0%	2.0%
Water/Sewer cost (\$/1000 gal)	\$3.00	\$3.00	\$3.00
Annual escalation	2.0%	2.0%	2.0%
Incentives:	ITC, SGIP	ITC	ITC
SAVINGS BY YEAR (1000s):			
1	\$ 304.0	\$ 178.7	\$ 398.8
2	\$ 328.1	\$ 202.5	\$ 444.7
3	\$ 351.7	\$ 225.9	\$ 490.6
4	\$ 374.8	\$ 248.9	\$ 482.5
5	\$ 397.2	\$ 271.3	\$ 528.3
6	\$ 610.6	\$ 472.9	\$ 745.4
7	\$ 675.6	\$ 532.3	\$ 780.2
8	\$ 722.3	\$ 577.6	\$ 850.4
9	\$ 769.8	\$ 623.9	\$ 922.0
10	\$ 818.1	\$ 671.1	\$ 934.1
11	\$ 867.3	\$ 719.1	\$ 1,008.5
12	\$ 917.3	\$ 767.9	\$ 1,084.2
13	\$ 1,218.8	\$ 1,055.1	\$ 1,325.9
14	\$ 1,323.3	\$ 1,153.0	\$ 1,460.1
15	\$ 1,390.9	\$ 1,219.0	\$ 1,554.7
16	\$ 1,459.6	\$ 1,286.3	\$ 1,582.5
17	\$ 1,529.6	\$ 1,354.8	\$ 1,680.7
18	\$ 1,600.7	\$ 1,424.4	\$ 1,780.7
19	\$ 1,672.8	\$ 1,495.1	\$ 1,809.5
20	\$ 1,645.6	\$ 1,472.0	\$ 1,817.9
Total:	\$ 18,978.2	\$ 15,951.5	\$ 21,681.7

The PPA has been negotiated and now includes the following remedies in the event of FCE's default:

1. FCE agrees to pay for up to two years of damages—the difference between the costs incurred by the City for SCE power to replace power from the fuel cell under the PPA. This period is deemed sufficient to allow the City to replace the fuel cell project with a project providing similar savings. The maximum cap on these costs will be \$1,000,000.
2. In regard to the Direct Energy gas purchase agreement, if FCE defaults on the PPA, the City will be responsible for paying liquidation fees (difference between contracted price and the price Direct Energy is able to re-sell the gas for at that time) for the remainder of each three-year natural gas contract. FCE has agreed to pay these liquidation fees in full arising as a result of FCE's default during any three-year period, and will provide an escrow of \$100,000 for this purpose at the contract inception. Note, if the City chooses to buy from SoCal Gas, or the indexed contract option, there will not be an indemnification by FCE for gas purchases because the City will have no forward liability.

Other key provisions of the PPA include:

1. The City will provide FCE with a non-exclusive license at the WWTP facility site for installation, operation and maintenance of the fuel cell, and ancillary access rights.
2. The City is responsible for paying for electricity it receives from the FCE fuel cell, however, the City is not required to expend any money toward the permitting and development of the fuel cell.
3. FCE is responsible for obtaining all necessary permits and approvals for the fuel cell, as well as utility electric and natural gas interconnections.
4. Either Party may terminate the PPA if the other Party defaults.
5. FCE is to remove the fuel cell at the end of the Term of the PPA. FCE will place \$100,000 in an escrow account to be held until the end of the Term, or if the PPA is terminated early, to secure FCE's removal of the fuel cell.

In regard to the gas purchase agreement with Direct Energy, the City Attorney has brought to the staff's attention that there may be a liability to the City in the event that FCE defaults and no longer utilizes the gas purchased by the City during any three-year or other successive term. This liability would arise under the following conditions:

- FCE defaults on the underlying PPA
- FCE then fails to perform on its contractual obligation to indemnify the City for its costs (the difference between the City's contracted purchase price and price for which Direct Energy sells that same gas if any)

This circumstance is most likely to arise in the event of a bankruptcy by FCE. In that event, it is possible that, under bankruptcy laws, FCE would not be able to indemnify the City for its gas costs under the Direct Energy contract, as provided in the PPA. The Direct Energy contract has also been review by counsel and approved as to form.

In regard to the Direct Energy gas agreement, staff points out the likelihood of significant savings to the City by the purchase of gas from Direct Energy and the historic and current financial strength of FCE, but leaves the policy decision of accepting this risk to the Board.

Staff recommends that the Board approve the PPA with FCE as presented. The agreement has been approved as to form by the City's Energy Counsel, Ann Trowbridge of Day, Carter and Murphy of Sacramento.

STAFF RECOMMENDATION:

Approve a twenty (20) year Power Purchase Agreement with Fuel Cell Energy of Danbury, Connecticut, and one of two gas purchase agreement alternatives 1) a fixed rate of \$4.00 per MMBtu or 2) a variable monthly index price, with Direct Energy of Houston, Texas for three (3) years, subject only to minor conforming or clarifying changes acceptable to the City Attorney; and authorize the City Manager to execute the approved agreements.

CITY ATTORNEY REVIEW/COMMENTS: Yes No N/A

IS ADDITIONAL (NON-BUDGETED) FUNDING REQUIRED: Yes No N/A

FUNDING SOURCE/ACCOUNT NUMBER: TBD – FY 2017-2018

Signed: Joseph Carlini

Title: Public Works Director

Date: October 25, 2016

City Manager Approval: 

PPA Transmittal Attachment 1



Gas Cost Comparison SoCal Gas Rate vs. NGI Index Rate

Term	SoCal Gas Procurement Rate	NGI ¹ SoCal Citygate	Savings
Jan-08	\$6.84	\$6.73	\$0.11
Feb-08	\$7.78	\$7.60	\$0.18
Mar-08	\$8.94	\$8.49	\$0.45
Apr-08	\$9.57	\$8.79	\$0.78
May-08	\$10.84	\$10.33	\$0.51
Jun-08	\$10.95	\$10.46	\$0.49
Jul-08	\$12.27	\$12.27	\$0.00
Aug-08	\$8.87	\$8.43	\$0.44
Sep-08	\$6.89	\$7.16	(\$0.27)
Oct-08	\$6.80	\$5.67	\$1.13
Nov-08	\$4.56	\$3.90	\$0.66
Dec-08	\$5.54	\$5.54	\$0.00
Jan-09	\$5.55	\$5.28	\$0.27
Feb-09	\$4.01	\$3.71	\$0.30
Mar-09	\$3.65	\$3.31	\$0.34
Apr-09	\$3.10	\$3.23	(\$0.13)
May-09	\$2.69	\$2.87	(\$0.18)
Jun-09	\$3.39	\$3.09	\$0.30
Jul-09	\$3.55	\$3.27	\$0.28
Aug-09	\$3.94	\$3.39	\$0.55
Sep-09	\$2.98	\$2.69	\$0.29
Oct-09	\$3.97	\$3.80	\$0.17
Nov-09	\$4.71	\$4.62	\$0.09
Dec-09	\$4.98	\$4.79	\$0.19
Jan-10	\$5.79	\$6.02	(\$0.23)
Feb-10	\$5.93	\$5.57	\$0.36
Mar-10	\$4.24	\$4.88	(\$0.64)
Apr-10	\$4.46	\$4.11	\$0.35
May-10	\$4.27	4.12	\$0.15
Jun-10	\$4.16	4.04	\$0.12
Jul-10	\$4.71	4.56	\$0.15
Aug-10	\$4.67	4.33	\$0.34
Sep-10	\$3.54	3.52	\$0.02
Oct-10	\$3.99	3.79	\$0.20
Nov-10	\$3.40	3.18	\$0.22
Dec-10	\$4.39	4.32	\$0.07
Jan-11	\$4.01	4.10	(\$0.09)
Feb-11	\$4.74	4.28	\$0.46
Mar-11	\$4.17	3.87	\$0.30
Apr-11	\$4.60	4.30	\$0.30
May-11	\$4.55	4.36	\$0.19
Jun-11	\$4.84	4.35	\$0.49
Jul-11	\$4.62	4.51	\$0.11
Aug-11	\$4.96	4.51	\$0.45
Sep-11	\$4.15	4.06	\$0.09
Oct-11	\$4.22	4.06	\$0.16
Nov-11	\$3.91	3.71	\$0.20
Dec-11	\$3.84	3.76	\$0.08
Jan-12	\$3.60	3.45	\$0.15
Feb-12	\$2.97	2.98	(\$0.01)
Mar-12	\$2.97	2.73	\$0.24
Apr-12	\$2.51	2.44	\$0.07
May-12	\$2.44	2.27	\$0.17
Jun-12	\$3.17	2.80	\$0.37
Jul-12	\$3.16	2.97	\$0.19
Aug-12	\$3.35	3.16	\$0.19
Sep-12	\$2.91	2.88	\$0.03
Oct-12	\$3.15	3.26	(\$0.11)
Nov-12	\$3.58	3.72	(\$0.14)
Dec-12	\$4.04	4.00	\$0.04
Jan-13	\$3.68	3.64	\$0.04
Feb-13	\$3.94	3.59	\$0.35
Mar-13	\$3.61	3.62	(\$0.01)
Apr-13	\$4.30	4.27	\$0.03
May-13	\$4.50	4.28	\$0.22

Term	SoCal Gas Procurement Rate	NGI ¹ SoCal Citygate	Savings
Jun-14	\$5.12	4.80	\$0.32
Jul-14	\$5.46	4.92	\$0.54
Aug-14	\$4.65	4.36	\$0.29
Sep-14	\$4.60	4.42	\$0.18
Oct-14	\$4.45	4.26	\$0.19
Nov-14	\$4.19	3.82	\$0.37
Dec-14	\$4.87	4.65	\$0.22
Jan-15	\$3.41	3.34	\$0.07
Feb-15	\$3.37	2.95	\$0.42
Mar-15	\$3.32	2.92	\$0.40
Apr-15	\$2.97	2.67	\$0.30
May-15	\$2.86	2.58	\$0.28
Jun-15	\$3.30	2.95	\$0.35
Jul-15	\$3.28	3.16	\$0.12
Aug-15	\$3.43	3.14	\$0.29
Sep-15	\$3.29	2.90	\$0.39
Oct-15	\$3.21	2.80	\$0.41
Nov-15	\$2.77	2.35	\$0.42
Dec-15	\$3.23	2.59	\$0.64
Jan-16	\$2.72	2.76	(\$0.04)
Feb-16	\$2.69	2.44	\$0.25
Mar-16	\$2.27	1.79	\$0.48
Apr-16	\$2.25	1.81	\$0.44
May-16	\$2.54	2.06	\$0.48
Jun-16	\$2.60	2.08	\$0.52
Jul-16	\$3.45	3.04	\$0.41
Aug-16	\$3.53	2.79	\$0.74
Sep-16	\$3.56	2.89	\$0.67
1-Yr AVG	\$2.90	\$2.45	\$0.45
2-Yr AVG	\$3.23	\$2.86	\$0.37
3-Yr AVG	\$4.90	\$4.70	\$0.20

¹ Prior to Nov08, the pricing point for SoCal Gas was SoCal Border.

<https://www.socalgas.com/for-your-business/energy-market-services/gas-prices>

POWER PURCHASE AGREEMENT

THIS POWER PURCHASE AGREEMENT (this “*PPA*”) is made and entered into as of _____, 2016 (the “*Effective Date*”), by and between Central CA Fuel Cell 1, LLC, a Delaware limited liability company, with its principal place of business c/o FuelCell Energy, Inc., 3 Great Pasture Road, Danbury, Connecticut 06810 (“*Seller*”), and the City of Tulare, a California municipal corporation, with its principal place of business at 411 East Kern Avenue, Tulare, California 93274 (“*Buyer*”). Seller and Buyer are sometimes hereinafter referred to individually as a “*Party*” and collectively as the “*Parties.*”

RECITALS

A. Seller intends to design, build, own, operate and maintain a nominally rated 2.8MW fuel cell power plant fueled by natural gas, which produces both electricity and thermal energy, as more particularly described in the General System Description set forth in **Exhibit H** hereto (the “*System*”), to be located on certain property owned by Buyer, located at 1875 S. West Street, Tulare, California 93274 and described in **Exhibit B** hereto (the “*Property*”).

B. Seller desires to sell to Buyer, and Buyer desires to purchase from Seller, all of the Energy Output generated by the System, and the associated Environmental Attributes and Reporting Rights, during the Term and otherwise in accordance with the terms of this PPA.

AGREEMENT

In consideration of the foregoing recitals, the mutual agreements, representations, warranties, and covenants set forth in this PPA and the Exhibits and other attachments hereto, and other good and valuable consideration, the receipt of which is hereby acknowledged, Seller and Buyer agree as follows:

ARTICLE 1

DEFINED TERMS; RULES OF INTERPRETATION; TERM

1.1 Defined Terms. Capitalized terms used in this PPA will have the meanings ascribed to them in **Exhibit A**, the *Schedule of Definitions and Rules of Interpretation*, attached hereto and made a part of this PPA by this reference. The rules of interpretation in **Exhibit A**, the *Schedule of Definitions and Rules of Interpretation*, will apply to this PPA unless expressly provided otherwise.

1.2 Term.

(a) The term of this PPA (the “*Term*”) will commence on the Effective Date and will be in effect until 00:00 hours Pacific Prevailing Time on the 20th anniversary of the Commercial Operation Date, unless terminated earlier as provided in Sections 2.5 (Utilities), 6.2 (System Loss), 6.5 (Force Majeure), or 7.2 (Event of Default).

(b) Seller will, within one hundred and eighty (180) days following the end of the Term, at Seller’s sole cost and expense, remove the System from the Installation Site and restore the Installation Site to its original condition, normal wear and tear excluded. Seller and its agents, consultants and representatives will have access at all reasonable times to the Installation Site and the System for purposes of such removal, subject to Buyer’s reasonable access, safety and security procedures, as provided in Section 4.1(c) hereof.

1.3 Conditions Precedent. The respective rights and obligations of the Parties under this PPA (other than those contained in this **Article 2** and **Articles 10** (Representations and Warranties; Buyer Acknowledgement), **11** (Indemnity; Limitations), **12** (Confidentiality; Publicity), **13** (Dispute Resolution), **14** (Notices), **15** (Assignment; Financing) and **16** (Miscellaneous), each of which are binding upon the Parties as of the Effective Date, are conditioned upon the satisfaction in full by Seller or Buyer, as applicable, of the following, or, with respect to subsections (c) and (d) below only, waiver by Seller:

(a) Seller has, at Seller’s sole cost and expense, obtained or caused others to obtain all consents, permits, approvals, authorizations, qualifications, and orders of all Governmental Entities required to own,

construct, operate or maintain the System and in connection with this PPA and the transactions contemplated hereby (collectively, "**Governmental Approvals**"), or the applicable Government Entities will have waived the requirement for such Governmental Approval(s);

(b) Seller has, at Seller's sole cost and expense, completed a physical inspection of the Property and the Parties mutually agree on an installation site for the System on the Property that is at least 4,800 square feet (the "**Installation Site**") including, if applicable, geotechnical work and real estate due diligence to confirm the suitability of the Installation Site for the System;

(c) Seller has, at Seller's sole cost and expense, obtained approvals and an agreement for interconnection of the System to the electric distribution and transmission grid;

(d) Seller has, at Seller's sole cost and expense, obtained approvals and an agreement for interconnection of the System to the local natural gas distribution system to facilitate the supply of natural gas for fueling and operating the System;

(e) Buyer has, at Buyer's sole cost and expense, and with reasonable assistance from Seller, contracted for or arranged the supply of water and natural gas for fueling and operating the System that meets the Utility Specifications described in **Exhibit C**;

(f) Buyer has provided access to the Installation Site to Seller at no cost to Seller;

(g) Seller has, at Seller's sole cost and expense, decommissioned and removed the existing fuel cell power plants located at 1875 S. West Street, Tulare, California pursuant to the terms and conditions of the Modified and Restated Service Agreement Terms and Conditions for Direct FuelCell (DFC) Power Plants dated November 15, 2012;

(h) Seller has commenced construction no later than 300 calendar days after the Effective Date;

(i) Seller has filed interconnection applications as necessary with the local electric distribution company and the local natural gas distribution company, respectively, no later than 90 calendar days after the Effective Date; and

(j) The management or, if deemed necessary by Seller, the board of directors of Seller's parent company, has approved this PPA and the transactions contemplated herein.

1.4 **Notice of Commercial Operation.** Subject to the remaining provisions of this PPA, Seller will notify Buyer in writing when the System has achieved Commercial Operation ("**Notice of Commercial Operation**"), and will in such notice state the Commercial Operation Date. Seller estimates that the Commercial Operation Date will occur within 10 months of the Effective Date.

1.5 **Survival.** Effective as of any termination of this PPA, the Parties will no longer be bound by the terms and conditions of this PPA, except (a) to the extent necessary to enforce any rights and obligations of the Parties, including payment obligations, arising under this PPA prior to termination of this PPA and (b) as provided in **Sections 7.3 through 7.8, Section 16.14, and Articles 12, 14, and 15.**

ARTICLE 2 LICENSE AND CUSTOMER OBLIGATIONS REGARDING PROPERTY

2.1 **Property Access Rights.** Buyer grants to Seller and to Seller's agents, employees and contractors, successors, and assigns a non-exclusive license (the "**License**") for access to, on, over, under and across a portion of the Property for the purposes of (a) installing, constructing, operating, owning, maintaining, accessing, removing and replacing the System on the Installation Site; (b) performing all of Seller's obligations and enforcing all of Seller's rights as set forth in this PPA; and (c) installing, using and maintaining electric lines and equipment, including inverters and meters, necessary to interconnect the System to Buyer's electric system at

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Buyer's facilities on the Property or that otherwise may from time to time be useful or necessary in connection with the construction, installation, operation, maintenance or repair of the System. The license area shall be defined by the Buyer within 180 days of the Effective Date, subject to timely receipt by Buyer of System engineering drawings from Seller, and subject to reasonable extensions mutually agreeable to the Parties. Seller will notify Buyer prior to entering the Property except in situations where there is imminent risk of damage to persons or property. Seller and Seller's agents, employees and contractors shall comply with Buyer's reasonable access, notice, safety and security procedures. The term of the License will continue until the date that is one hundred and eighty (180) days following the date of expiration or termination of this PPA (the "*License Term*"). During the License Term, Buyer will ensure that Seller's rights under the License and Seller's access to the Installation Site are preserved and Buyer shall not unreasonably interfere, and Buyer shall not convey rights to third parties in and over the License area which unreasonably interfere, with Seller's rights or access. Seller shall remove the System during the License Term, in accordance with **Section 1.2(b)** of this PPA. Buyer agrees that Seller may record a memorandum of license showing the Property and the Installation Site, in substantially the same form attached hereto as **Exhibit D** in the real property records respecting the License. Buyer hereby agrees to execute a commercially reasonable form of ground lease or a separate license agreement as requested by Seller or the Financing Parties, if required. Except in the case of an emergency condition, access to the System must be scheduled in advance and such access will not be unreasonably withheld.

2.2 Installation Site Preparation. Once the Parties have agreed upon an Installation Site, Seller or its designee shall provide Buyer with a written description of the work necessary to prepare the Installation Site for the System, as well as the decommissioning and removal of the existing fuel cell power plants. As part of this written description, Buyer will be provided with a description of any work that must be performed by Seller, interconnecting utilities or others in order to ensure that the requisite operating parameters for air, natural gas and water will be met. Seller will prepare the Installation Site to enable Seller to install and operate the System in accordance with all of the requirements of this Agreement. Installation Site preparation shall be undertaken by Seller at its sole cost and expense.

2.3 Transmission/Distribution Lines and Communication Cables. Under the License, Seller has the right to locate transmission/distribution lines and communications cables across the Property in connection with the construction, installation, operation, maintenance or repair of the System, with Buyer's input and prior written approval.

2.4 Storage and Disposal. Buyer will make available to Seller adequate storage space on the Property convenient to the Installation Site, for materials and tools used during construction, installation, operation, and maintenance of the System, spare parts, and storage for replaced Consumables. Seller will dispose of all waste under Seller's own waste generator identification number.

2.5 Utilities. Seller shall be responsible for installation costs associated with infrastructure for water, natural gas, drainage/sewer, electricity and Internet connections. Water, natural gas, drainage/sewer, electrical supply commodities and monthly costs for Internet connections on the Property for use by Seller in installing, operating and maintaining the System will be provided by Buyer at Buyer's sole cost and expense. Buyer understands and acknowledges that the System is designed to use natural gas, air and water free of corrosive components and containing only normal contaminants, as more fully set forth in the specifications attached as **Exhibit C** hereto ("*Utility Specifications*"). It is Buyer's obligation to provide natural gas, air and water in accordance with the Utility Specifications and at the delivery point(s) specified in **Exhibit E** (the "*Utility Delivery Point(s)*"). If, after the Commercial Operation Date, the air, natural gas or water do not meet the Utility Specifications, Buyer must immediately remedy the situation at Buyer's sole cost and expense. If Buyer fails to remedy such situation within 30 days after written notice from Seller, Seller may, at its sole option (i) terminate this Agreement in accordance with **Section 7.4** and collect from Buyer a Termination Payment; (ii) relocate, modify or install any additional equipment required to remedy the situation at Buyer's sole cost and expense; or (iii) reasonably adjust the rates for the Energy Output delivered hereunder to reflect the increased cost to Seller caused by such changes in the natural gas, air or water.

2.6 Maintenance of Property. Buyer will, at its sole cost and expense, maintain the Property in good condition and repair. Buyer will ensure that Buyer's facilities on the Property remain connected to the Utility grid at all times and will not request cessation of electric service to Buyer's facilities on the Property from the Utility without the consent of Seller. The Parties acknowledge that electric service to Buyer's facilities on the Property may be disrupted by the unilateral action of Utility in accordance with the terms of its service agreement with Buyer. Buyer is fully responsible for the maintenance and repair of its electrical system and of all of Buyer's equipment that utilizes the System's outputs. Buyer will properly maintain in full working order all of Buyer's electric supply or generation equipment that Buyer may, in its sole discretion, shut down while utilizing the System. Buyer will promptly notify Seller of any matters of which it becomes aware pertaining to any damage to or loss of use of the System or that could reasonably be expected to adversely affect the System.

2.7 Alteration of Property. Buyer and Seller will not make any alterations or repairs to the Installation Site or facilities on property adjacent to the Installation Site that may adversely affect the operation and maintenance of the System. Buyer will notify and obtain the written consent of Seller before making any alterations or repairs to the Installation Site or facilities on the Property adjacent to the Installation Site, except that if Buyer reasonably determines that the Installation Site or facilities on the Property adjacent to the Installation Site require an emergency repair, Buyer will notify Seller by telephone or electronic mail prior to or as soon as reasonably practical after making the emergency repair and Seller's verbal consent will satisfy Buyer's advance notice and consent obligation to make or cause to be made the emergency repair. If Buyer cannot reasonably determine whether a contemplated alteration or repair to the Installation Site or facilities on the Property adjacent to the Installation Site may cause an adverse effect to the System, Buyer will notify Seller and provide Seller the opportunity to advise Buyer and any third party in making such alterations or repairs and undertaking such construction in a manner that avoids damage to the System; but, notwithstanding any such advice, Buyer will be responsible for all damage to the System caused by Buyer or its contractors in undertaking such alterations or repairs. To the extent that temporary disconnection or removal of the System is necessary to perform Buyer's proposed alterations or repairs, Seller or its contractors will perform such work and any replacement of the System, and Buyer will be responsible for the cost of such work and for Seller's lost revenues that are a result of any reduced output from the System during such alterations and repairs in an amount equal to the amount that would have been otherwise payable under this PPA during the ordinary course of the System's operation. All of Buyer's alterations and repairs will be done in a good and workmanlike manner and in compliance with all applicable laws, codes and permits.

2.8 Liens. Buyer will not directly or indirectly cause, create, incur, assume or allow to exist any mortgage, pledge, lien, charge, security interest, encumbrance or other claim of any nature (collectively, "Liens") on or with respect to the System or any interest therein. Buyer will immediately notify Seller in writing of the existence of any such mortgage, pledge, lien, charge, security interest, encumbrance or other claim, and Buyer will promptly cause the same to be discharged and released of record without cost to Seller. Buyer will indemnify Seller against all costs and expenses (including reasonable attorneys' fees) incurred by Seller in discharging and releasing any such mortgage, pledge, lien, charge, security interest, encumbrance or other claim. In accordance with the terms of **Article 11**, Seller will indemnify Buyer for any actual loss, expense and liability arising from any pledge, lien, materialman's lien, charge, security interest, encumbrance or other claim that may be placed on Buyer's property by any contractor or subcontractor utilized by Seller. Seller shall keep Buyer's Property free from all Liens resulting from the construction, installation, operation or maintenance of the System and shall indemnify, defend and hold harmless Buyer from and against all costs, charges and expenses including attorney's fees and charges that Buyer may incur resulting from or arising out of any such Lien. Seller shall take prompt steps to remove or discharge any Lien filed against Buyer's Property. If Seller fails to promptly discharge, bond or otherwise assure the payment of any such Lien as required under this Section 2.8 within thirty (30) days of Seller becoming aware of any such Lien, Buyer may promptly notify Seller in writing and take any reasonable action to satisfy, defend, settle, discharge or otherwise remove such Lien. In such event, Seller shall be liable to Buyer for all damages, costs, losses, expenses and settlement payments incurred by Buyer arising out of or relating to such removal or discharge.

2.9 Security. Buyer will be responsible for maintaining the physical security of the Installation Site and the System in accordance with Buyer's customary practices. Buyer will adopt and enforce reasonable policies relating to the safety of third parties and protecting the System from damage from third parties. Such measures will include, but are not limited to, placing appropriate fencing around the Installation Site, locking the Installation Site and the posting of appropriate notices and signs warning of the potential for personal injury or death resulting from the unauthorized access to the Installation Site. Buyer will, in cooperation with Seller, identify restrictions to be imposed on its third-party invitees and clearly communicate such restrictions through signage and other measures.

2.10 Remote Monitoring. Seller will provide one of the following communications options by means of which Seller will communicate data from the performance monitoring system for the System:

- (a) Dedicated High speed DSL from an ISP with a steady throughput of 193 kbps or higher;
- (b) Cable Modem line with a steady throughput of 193 kbps or higher;
- (c) Direct connection to Buyer's private or internal network. The direct connection cannot have a shared IP address; or
- (d) EVDO Wireless Internet. This option is only available in the United States. A throughput of 193 kbps is required.

Seller will be responsible for connecting monitoring equipment for the System to the internet so that it is possible for Buyer and Seller to remotely monitor the System by VPN or other means designated by Seller.

ARTICLE 3 PURCHASE AND SALE; DELIVERY; GOVERNMENTAL CHARGES

3.1 Purchase and Sale of Energy Output and Thermal Output.

(a) Commencing on the Commercial Operation Date and continuing throughout the remainder of the Term, Seller will deliver to Buyer, and Buyer will purchase and take delivery of, at the Delivery Point, all of the Energy Output and Thermal Energy produced by the System.

(b) Buyer will be responsible for arranging delivery of Energy Output and Thermal Energy from the Delivery Point to Buyer and any installation and operation of equipment on Buyer's side of the Delivery Point necessary for acceptance and use of the Energy Output and the Thermal Energy. The Parties acknowledge that, subject to the Output Guarantee, Buyer is solely responsible for meeting any and all of its electric and thermal energy needs not met from System generated electricity or thermal energy at Buyer's cost and expense.

(c) The Parties acknowledge that Buyer, as the Utility customer, has the right to take service under any net energy metering, feed-in, or other similar Utility tariff(s) for which the System is eligible, if and when such tariff(s) are available.

3.2 Delivery Point.

(a) Electricity produced by the System will be delivered by Seller to Buyer at the point of connection designated as the Electricity Delivery Point between the System and the Buyer's electrical distribution system, depicted in **Exhibit E** (the "**Electricity Delivery Point**").

(b) Thermal Energy produced by the System will be delivered by Seller to Buyer at the point of connection designated as the Thermal Delivery Point between the System and the Buyer's thermal distribution system, depicted in **Exhibit E** (the "**Thermal Delivery Point**"). The Thermal Delivery Point and the Electrical Delivery Point, collectively or individually, are sometimes referred to herein as the "**Delivery Point**."

3.3 Price for Electricity Output. Buyer will pay Seller for the Electricity produced by the System, as metered at the Metering Device ("**Electricity Output**"), at the applicable Energy Payment Rate in accordance with **Exhibit F** hereto. The payment to be made by Buyer to Seller will equal the Electricity Output plus Lost Production for the relevant period multiplied by the Energy Payment Rate for such period. There will be no charge for Thermal Energy produced by the System and delivered to Buyer.

3.4 Energy Output Guarantee. Seller warrants to Buyer that for the Term the System will provide a guaranteed yearly electrical output as provided in **Exhibit G** (the "**Output Guarantee**"). The Electricity Output

produced by the System will be determined annually using onboard instrumentation and corrected using FuelCell Energy, Inc.'s Powerplant Output and Efficiency Correction Factors to Standard Conditions manual #9284. In determining compliance with this Section, the measured Electricity Output will be corrected (increased) to account for System Loss and any Property load or other parasitic load due to equipment other than the System, including Buyer or third party-provided equipment, that draws power from the fuel cell prior to the meter. In the event that the Electricity Output of the System is less than the Output Guarantee in any Contract Year, Seller will calculate an Output Shortfall Payment, and if that is a positive amount, credit it to Buyer pursuant to **Section 9.3** (if that calculation results in a negative amount, then Buyer will receive neither a charge nor a credit). The "**Output Shortfall Payment**" will be calculated as the positive difference (if any) between the Buyer's average annual retail tariff price of electricity (generation component) delivered from the Utility for the Contract Year and the Energy Payment Rate for such Contract Year, multiplied by the number of kWh of shortfall from the Output Guarantee for such Contract Year. Notwithstanding the foregoing, any shortfall of Energy Output caused by Force Majeure, Buyer Misconduct or Buyer's failure to comply with this PPA will not be calculated in the Output Shortfall Payment.

3.5 [Intentionally deleted]

3.6 Energy Payment Rate.

(a) Energy Payment Rate. The Energy Payment Rate will be as stated in **Exhibit F** hereto.

(b) Adjustments to Energy Payment Rate. In all cases, any adjustments in the Energy Payment Rate, including the annual escalation calculation provided in **Exhibit F** hereto, will be made to the nearest hundredth of a cent.

3.7 Title and Risk of Loss of Energy Output. Title to and risk of loss of the Energy Output and Thermal Energy will pass from Seller to Buyer at the Delivery Point. Seller warrants that it will deliver the Energy Output and Thermal Energy to Buyer at the Delivery Point free and clear of all liens, security interests, claims and other encumbrances.

3.8 Governmental Charges.

(a) Seller is responsible for local, state and federal income taxes attributable to Seller for income received under this PPA.

(b) Buyer is responsible for all Governmental Charges attributable to the sale of the Energy Output from Seller to Buyer customarily charged by the electric Utility serving Buyer or imposed specifically upon the production of distributed electrical energy, irrespective of whether imposed before, upon or after the delivery of the Energy Output to Buyer at the Delivery Point, other than Standby Charges which are Seller's responsibility. Buyer will promptly reimburse Seller for any such Governmental Charges that are assessed to and paid by Seller.

(c) Both Parties will use reasonable efforts to administer this PPA and implement its provisions so as to minimize Governmental Charges. In the event any of the sales of Energy Output hereunder are to be exempted from or not subject to one or more Governmental Charges, the applicable Party will, promptly upon the other Party's request therefor, provide the applicable Party with all necessary documentation to evidence such exemption or exclusion. For the avoidance of doubt, Seller will bill Buyer for any Governmental Charges which are the responsibility of Buyer pursuant to this Section, regardless of whether Seller is billed separately for such charges.

3.9 Utility Rates/Tariffs. Buyer understands and acknowledges that Seller is not replacing 100% of Buyer's energy needs and that Buyer will still need to purchase some energy from the Utility. In conjunction with the purchase of the energy from the Utility, Buyer expressly agrees and understands that it is responsible for the applicable rates and/or tariffs charged to it by the Utility for any such energy purchased, and that any loss relating to the failure to obtain a preferential tariff rate will be borne solely by the Buyer. Buyer will pay all charges assessed by the Utility attributable to Buyer's facilities located on the Installation Site.

3.10 Title to Environmental Attributes, Reporting Rights, and Environmental Incentives. Buyer will own, and may assign or sell in its sole discretion, all right, title, and interest in all Environmental Attributes and the Reporting Rights for the Environmental Attributes, and all Environmental Incentives and Reporting Rights for the

Environmental Incentives, associated with or resulting from the installation and operation of the System or the production, sale, purchase or use of the Energy Output or Thermal Energy from the System. Seller will own, and may assign or sell in its sole discretion, all right, title, and interest in all System Incentives associated with or resulting from the installation and operation of the System or the production, sale, purchase or use of the Energy Output from the System.

ARTICLE 4 CONSTRUCTION, MAINTENANCE AND MONITORING; DESIGN AND DEVELOPMENT OF RENEWABLE SYSTEMS

4.1 Construction, Maintenance and Monitoring of System by Seller.

(a) Seller will, at its sole cost and expense (i) design, specify and hire contractors to construct the System substantially in accordance with the General System Description set forth in **Exhibit H** attached hereto and applicable Laws, (ii) maintain the System in good condition and repair and in accordance with applicable Laws, requirements of applicable insurance policies, and the terms of this PPA, and (iii) reasonably monitor the System's performance in an effort to minimize any loss of Energy Output or Thermal Energy caused by a System malfunction.

(b) Notwithstanding subsection (a) above, Seller has the right to modify the design of the System, including the selection of components in the System, as Seller, in its sole discretion may determine, provided however that such changes shall not result in the System exceeding the nameplate capacity, building footprint, location and dimensions set forth in **Exhibit H** without Buyer's prior written approval.

(c) Seller's general contractor, agents, and consultants (collectively, "*Seller's Contractors*") will have reasonable access at all reasonable times to the Property for the purpose of planning, constructing, operating, inspecting, maintaining, repairing and removing the System, and to any documents, materials and records of Buyer relating to the Property that Seller's Contractors reasonably request in conjunction with these activities. Seller's Contractors will comply with all reasonable access and notice procedures agreed upon between Buyer and Seller from time to time in writing relating to activities conducted by or on behalf of Seller on the Property relating to the System. During any such activities, Seller and Seller's Contractors will comply with Buyer's reasonable safety and security procedures (as may be promulgated from time to time and communicated to Seller), and Seller and Seller's Contractors will conduct such activities in such a manner and at such a time and day as to avoid or minimize interference with Buyer's activities to the extent reasonably practicable. Notwithstanding anything to the contrary in this Section, Seller and Seller's Contractors will be allowed immediate access to the Property and the System in connection with any emergency condition then existing with respect to the System that could reasonably be expected to pose an imminent threat to the safety of persons or property.

(d) Seller may shut down the System at any time in order to perform emergency repairs to the System. Seller shall give Buyer notice of any emergency shutdown as may be reasonable under the circumstances. Except as otherwise provided in Section 3.4 with respect to the Output Shortfall Payment, Seller will not have any obligation to reimburse Buyer for costs of purchasing electricity or thermal energy that would have been produced by the System but for the emergency shutdown. Seller may, at Seller's sole cost and expense and without affecting its obligations under this PPA, remove any equipment incorporated into the System and replace it with other equipment of a different size or type, and Buyer shall cooperate fully with Seller to accommodate any such change. Any such replacement of equipment shall not result in the System exceeding the nameplate capacity, building footing, location and dimensions set forth in **Exhibit H** without Buyer's prior written approval.

4.2 Seller's Operation, Maintenance and Repair Obligations.

(a) Seller will operate, maintain and repair the System in accordance with Industry Standards. Seller will make available to Buyer quarterly reports demonstrating that the System is operated and maintained in accordance with Industry Standards.

(b) On or before the Commercial Operation Date, Seller will provide Buyer with an operation and maintenance plan for the System for approval by Buyer, which will not be unreasonably withheld or delayed. Seller will maintain, and make available to Buyer, quarterly reports for the System which will include information on power production and efficiency (if applicable), availability, maintenance performed, repairs performed, outages, changes in operating status, inspections and any other significant events related to the operation of the System.

4.3 Buyer's Maintenance.

(a) Nothing in this PPA will limit Buyer's ability to maintain the Property in a reasonable manner consistent with Buyer's current and past practices, and presently anticipated future practices. In the event that Buyer's maintenance of the Installation Site or Property prevents or limits deliveries of Energy Output to Buyer, Buyer will pay all damages, costs and expenses arising in connection with such maintenance, including lost revenues under this PPA, and loss of Investment Tax Credits in respect of deemed amounts of Electricity Output as calculated in accordance with **Section 3.4**.

(b) Notwithstanding **Section 4.1** above, Buyer acknowledges that activities conducted by or on behalf of Seller on the Installation Site relating to the System may interfere with Buyer's maintenance of the Property or Buyer's conduct of business thereon. Seller agrees to take all commercially reasonable measures to avoid or minimize such interference.

4.4 Hazardous Materials. Seller is not responsible for any Hazardous Materials released on or from the Property except to the extent introduced or caused by Seller. Upon encountering any Hazardous Materials, Seller will stop work in the affected area and notify Buyer, and, if required by applicable Law, any Governmental Authority with jurisdiction over the Property. Upon receiving notice of the presence of any suspected Hazardous Materials at the Property, Seller or Buyer, as appropriate, shall take all measures required by applicable Law to address the Hazardous Materials released or discovered at or from the Property. If Seller or Seller's Contractors and subcontractors are not responsible for the release of Hazardous Materials, Buyer will reimburse Seller for all additional costs incurred by Seller or Seller's Contractors and subcontractors in the installation of the System resulting from the presence of and/or the remediation of Hazardous Materials, including demobilization and remobilization expenses. Notwithstanding the preceding provisions, Buyer is not responsible for any Hazardous Materials introduced to or released from the Installation Site by Seller or Seller's Contractors or subcontractors or for any of costs relating to such Hazardous Materials.

ARTICLE 5

DESIGN, DEVELOPMENT, COMMISSIONING AND TESTING OF SYSTEM

5.1 Seller's Obligations. Seller will, at its sole cost and expense:

(a) Design the System in accordance with Industry Standards and as required for Seller to perform its obligations under this PPA;

(b) No later than 20 calendar days prior to submittal for planning and building approvals, provide a detailed design package including industry standard architectural, structural, and electrical drawings, as well as renderings, models and mock-ups illustrating the aesthetics of the System, for approval by Buyer, which may not be unreasonably withheld or delayed;

(c) Acquire and maintain all Governmental Approvals;

(d) After Seller receives all Governmental Approvals and no later than 20 calendar days prior to start of construction, provide the detailed design package to Buyer if revised in the permitting process;

(e) Provide copies to Buyer of all environmental impact assessments, statements or studies conducted by or for Governmental Authorities, if required;

(f) Acquire and maintain an agreement for interconnection of the System to the local natural gas system to supply natural gas for fueling and operating the System; and

(g) Acquire and maintain an agreement for interconnection of the System to the electric distribution and transmission grid.

5.2 Contractors and Subcontractors. Seller will provide Buyer with notice of the name and address of any of Seller's Contractors and subcontractors who will perform work on the Installation Site.

5.3 Status Reports and Commercial Operation. Seller shall install the System and shall cause the gas and electric system interconnection facilities to be installed in a good and workmanlike manner in accordance with all applicable Laws. Seller shall give Buyer regular updates, on a reasonable schedule, on the progress of installation of the System and shall notify Buyer of when Seller will commence testing of the System. Buyer has the right to have its representatives present during the testing process, subject to reasonable requirements of Seller concerning safety. After Seller has determined, in its reasonable judgment, that the System meets the requirements of the local electric distribution company, has been installed in accordance with applicable Laws, and is capable of producing electric and thermal energy on a continuous basis, and has passed the Initial Acceptance Test as set forth below, Seller shall notify Buyer that installation of the System is complete and shall specify the Commercial Operation Date for the System, which may be immediately upon delivery of such notice to Buyer. All Electricity and thermal energy produced by Seller prior to the Commercial Operation Date (during initial commissioning tests and start-up) shall be delivered to Buyer and Buyer shall pay for such Electricity and Thermal Energy at the Energy Payment Rate applicable to the first Contract Year. Seller will provide Buyer with written notice of the Commercial Operation Date. The "*Initial Acceptance Test*" will be deemed successfully completed when the System meets the following minimum performance standards (corrected for International Organization for Standardization ("ISO") conditions and Seller's design point specifications) when (i) operated with natural gas and water in accordance with the Utility specifications and (ii) with corrections to measured performance for parasitic loads not attributable to the System:

Power Output: Average 2800kW +/- 3%

The Initial Acceptance Test will be conducted in accordance with ASME PTC 50 protocols.

ARTICLE 6

SYSTEM OWNERSHIP; RISK OF LOSS; INSURANCE; FORCE MAJEURE; CHANGE IN LAW

6.1 System Ownership.

(a) Notwithstanding the System's presence and operation on the Installation Site, Seller will at all times retain title to and be the legal and beneficial owner of the System and all alterations, additions or improvements thereto, and the System will remain the property of Seller or Seller's assigns. In no event may anyone claiming by, through or under Buyer (including any present or future mortgagee of the Installation Site) have any rights in or to the System at any time. Buyer acknowledges that Seller may be required to grant, or cause to be granted, to Seller's Financing Parties a security interest in the System. Any such grant of security interest shall be deemed an assignment for purposes of Article 15 hereof. Buyer will cooperate with Seller and execute reasonable documentation, including consents, required by Seller's Financing Parties.

(b) Seller will be the owner of the System for federal income tax purposes and, as such, Seller and/or Seller's Financing Parties will be entitled to all depreciation deductions associated with the System and to any and all tax credits or other tax benefits associated with the System, including any such tax credits or tax benefits under the Code.

(c) Nothing in this PPA will be construed to convey to Buyer a license or other right to trademarks, copyrights, technology or other intellectual property of Seller or associated with the System.

6.2 System Loss.

(a) Seller will bear the risk of any System Loss excluding, however, the portion of any System Loss caused by the gross negligence or intentional misconduct of Buyer or Buyer's directors, agents, employees, invitees, or contractors (collectively, "*Buyer Misconduct*").

(b) In the event of any System Loss that, in the reasonable judgment of Seller, results in less than total damage, destruction or loss of the System, this PPA will remain in full force and effect and Seller will, at Seller's sole cost and expense, repair or replace the System as quickly as practicable; provided, however, that if more than

fifty percent (50%) of the System is destroyed during the last five (5) years of the Term, Seller will not be required to restore the System, but may instead terminate this PPA. Notwithstanding the foregoing, to the extent that such total or partial System Loss has been caused by Buyer Misconduct, Buyer will, promptly upon demand from Seller, pay all damages, costs and expenses arising in connection with such System Loss, including, without limitation, cost of repair where less than 50% of the System is damaged or destroyed and more than five (5) years of the Term remain, and lost revenues under this PPA. The calculation of losses described in the preceding sentence will be based upon Energy Output calculated as provided in **Section 3.4** above. Within 10 Business Days after written demand from Seller, Buyer will pre-pay or post security acceptable to Seller for any repair expenses attributable to Buyer Misconduct that are reasonably estimated by Seller.

(c) In the event of any System Loss that, in the reasonable judgment of Seller, results in total damage, destruction or loss of the System, Seller will, within 20 Business Days following the occurrence of such System Loss, notify Buyer whether Seller is willing, notwithstanding such System Loss, to repair or replace the System. Any such repair or replacement of equipment shall not result in the System exceeding the nameplate capacity, building footing, location and dimensions set forth in **Exhibit H** without Buyer's prior written approval.

(i) In the event that Seller notifies Buyer that Seller is not willing to repair or replace the System, this PPA will terminate automatically upon the effectiveness of such notice and Seller will promptly remove the System from the Installation Site in accordance with **Section 1.2(b)** above. If such total System Loss has been caused by Buyer Misconduct, Buyer will, within 10 Business Days following such termination, pay to Seller, as liquidated damages, the Termination Payment applicable as of such termination date.

(ii) In the event that Seller notifies Buyer that Seller is willing to repair or replace the System, the following will occur: (A) this PPA will remain in full force and effect; (B) Seller will repair or replace the System as quickly as practicable; and (C) if such System Loss has been caused, totally or partially, by Buyer Misconduct, Buyer will, promptly upon demand from Seller, pay all damages, costs and expenses arising in connection with such System Loss that is attributable to Buyer Misconduct, and associated lost revenues under this PPA, if any. The calculation of losses described in the preceding sentence will be based upon forecasted Energy Output calculated consistent with the methodology provided in **Section 3.4** above. Within 10 Business Days after written demand from Seller, Buyer will pre-pay or post security acceptable to Seller for any repair expenses reasonably estimated by Seller.

6.3 Insurance. The Parties will provide insurance in accordance with **Exhibit I** attached hereto.

6.4 Performance Excused by Force Majeure. To the extent either Party is prevented by Force Majeure from carrying out, in whole or part, its obligations under this PPA and such Party (the "**Claiming Party**") gives notice and details of the Force Majeure to the other Party as soon as practicable (and in any event within five Business Days after the Force Majeure first prevents performance by the Claiming Party), then the Claiming Party will be excused from the performance of its obligations under this PPA (other than the obligation to make payments then due or becoming due with respect to performance prior to the Force Majeure). The Claiming Party will use commercially reasonable efforts to eliminate or avoid the Force Majeure and resume performing its obligations under this PPA; *provided, however*, that neither Party is required to settle any strikes, lockouts or similar disputes except on terms acceptable to such Party, in its sole discretion. The non-Claiming Party will not be required to perform or resume performance of its obligations to the Claiming Party corresponding to the obligations of the Claiming Party excused by Force Majeure for so long as the claim of Force Majeure continues.

6.5 Termination due to Force Majeure. If a Claiming Party claims a Force Majeure for a consecutive period of one year or longer, and such Force Majeure event has a material adverse effect on the entire System, then either Party may terminate this PPA, in whole or in part, without any liability of the Claiming Party as a result of such termination, and Seller will promptly remove the System from the Installation Site in accordance with **Section 1.2(c)** above.

6.6 Change in Law. The Energy Payment Rate is based on assumptions related to the availability to Seller of the System Incentives. In the event of the elimination or alteration of the System Incentives, or any other change in Law that results in a material adverse economic impact on Seller or Buyer in respect of this PPA (including due to a Law that increases Seller's cost of compliance with this PPA), but excluding the availability of any California self-generation incentive program payments to Buyer, the Parties will work in good faith to amend the provisions

of this PPA within 20 Business Days after such elimination or alteration, as may be reasonably necessary to restore the allocation of economic benefits and burdens contemplated by this PPA as of the Effective Date.

ARTICLE 7 EVENTS OF DEFAULT; REMEDIES

7.1 Events of Default. An “*Event of Default*” means, with respect to a Party (a “*Defaulting Party*”), the occurrence of any of the following:

(a) such Party’s failure to make, when due, any payment required under this PPA if such failure is not remedied within 15 Business Days after receipt of written notice from the other Party (the “*Non-Defaulting Party*”);

(b) any representation or warranty made by such Party in this PPA is false or misleading in any material respect when made or when deemed made or repeated if such breach is not cured or remedied (including by payment of money to the Non-Defaulting Party) within 20 Business Days after receipt of written notice from the Non-Defaulting Party;

(c) the failure to perform any material covenant or obligation set forth in this PPA (except to the extent constituting a separate Event of Default), if such failure is not remedied within 20 Business Days after receipt of written notice from the Non-Defaulting Party and provided that so long as the Non-Defaulting Party has initiated and is diligently attempting to effect a cure, such cure period will be extended for an additional period not to exceed 40 Business Days;

(d) such Party becomes Bankrupt;

(e) such Party fails to provide or maintain in full force and effect any required insurance, if such failure is not remedied within five Business Days after receipt of written notice from the Non-Defaulting Party.

7.2 Remedies for Event of Default. If at any time an Event of Default has occurred and is continuing, the Non-Defaulting Party may (a) pursue applicable remedies or damages at law or equity, or (b) with notice to the Defaulting Party, designate a date, not earlier than 20 Business Days after the date such notice is effective, an early termination date in respect of this PPA (an “*Early Termination Date*”). In the event such Early Termination Date notice is provided, the Non-Defaulting Party will have the right as of the date of such notice to (i) withhold any payments due to the Defaulting Party under this PPA and (ii) suspend performance due to the Defaulting Party under this PPA.

7.3 Buyer Rights Upon Termination for Default. In the event that Buyer is the Non-Defaulting Party, and Buyer elects to terminate this PPA as provided in **Section 7.2**, Buyer will be entitled, at its sole discretion, to require Seller to remove the System as provided in **Section 1.2(b)** above. For the period following Seller’s default, such period not to exceed two years, in order to afford Buyer a reasonable time to replace the System with a reasonably similar electric generation facility capable of providing reasonably similar quantities of energy to Buyer, Seller shall pay the Buyer, on a monthly basis, its cost to cover the loss of Energy Output from the System, calculated as the positive difference, if any, between (a) the cost of power purchased by the Buyer from the Utility, multiplied by the quantity of energy that would have been generated by the System minus (b) the applicable Energy Payment Rate multiplied by quantity of energy that would have been generated by the System; provided that if the difference between clause (a) minus clause (b) is zero or negative, then Buyer’s cost to cover shall be zero dollars and further provided that the total amount payable by Seller for such two year period shall not exceed one million dollars (\$1,000,000.00). If Seller fails to perform this obligation for any month during the two year period, Buyer may pursue all other remedies or damages at law or in equity against Seller. For any subsequent years, Buyer may pursue all remedies or damages at law or in equity against Seller.

7.4 Seller Rights Upon Termination for Default. In the event that Seller is the Non-Defaulting Party, and Seller elects to terminate this PPA as provided in **Section 7.2**, Seller will remove the System as provided in Section 1.2(c) above and require that Buyer pay the Termination Payment to Seller. In the event that Seller elects the foregoing remedy, such express remedy will be the sole and exclusive remedy available to Seller as a result of termination of this PPA subject, however, to **Section 7.8** below. Buyer’s liability will be limited as set forth in such provision and all other remedies or damages at law or in equity are hereby waived by Seller.

7.5 Termination Payment Notice. In the event that the Termination Payment is required to be paid to Seller pursuant to **Section 7.4**, then Seller will notify Buyer of the amount of the Termination Payment and any amount otherwise due and outstanding under this PPA. Such notice will include a written statement explaining in reasonable detail the calculation of such amount. Buyer will be required to pay the Termination Payment and any amount otherwise due and outstanding under this PPA to Seller within five Business Days after the receipt of such notice.

7.6 Closeout Setoffs. Upon the occurrence of an Event of Default, the Non-Defaulting Party will be entitled, at its option, and in its discretion, to set off against any amounts due and owing to the Defaulting Party any amounts due and owing by the Defaulting Party to the Non-Defaulting Party under this PPA.

7.7 Remedies Cumulative. Except as provided in **Sections 7.3** and **7.4**, the rights and remedies contained in this **Article 7** are cumulative with the other rights and remedies available under this PPA or at law or in equity. The Non-Defaulting Party will be under no obligation to prioritize the order with respect to which it exercises any one or more rights and remedies available under this PPA.

7.8 Unpaid Obligations. Notwithstanding anything to the contrary herein, the Defaulting Party will in all events remain liable to the Non-Defaulting Party for any amount payable by the Defaulting Party in respect of any of its obligations remaining outstanding after any such exercise of rights or remedies.

ARTICLE 8 METERING DEVICE AND METERING

8.1 Metering Equipment. Seller will utilize the fuel cell's onboard instrumentation ("Metering Device") and corrections to measured performance in accordance with the manufacturer's standard protocols and manufacturer's document number 9284, DFC3000, Powerplant Output and Efficiency Correction Factors to Standard Conditions, Revision C to determine output. The output shall be corrected (increased) to account for any parasitic load not attributable to the System, such as from Buyer or third party equipment or facilities, that draw power from the fuel cell prior to the meter, and for Lost Production.

8.2 Measurements. Output as reported by the Metering Device will be conclusive as to the amount of Energy Output. If the Metering Device is out of service, is discovered to be inaccurate or registers inaccurately, Seller will determine measurements of Energy Output in a commercially reasonable manner by reference to quantities of Energy Output measured during periods of similar conditions when the Metering Device was registering accurately. If, for calculation purposes, no time period of similar conditions, during which the Metering Device registered accurately, can be determined, measurements of Energy Output will be calculated in good faith by Seller with reference to applicable fuel cell energy production modeling generally accepted in the industry.

ARTICLE 9 INVOICING AND PAYMENT

9.1 Invoicing and Payment. All invoices under this PPA will be dated as of the last day of production for each monthly billing period hereunder. Such invoices will be due and payable not later than 30 days after the date of the applicable invoice. Each Party will make payment by electronic funds transfer, or by other mutually agreeable method(s), to the account designated by the other Party. Any amounts not paid by the applicable due date will accrue interest at the Late Payment Interest Rate until paid in full.

9.2 Disputed Amounts. A Party may in good faith dispute the correctness of any invoice (or any adjustment to any invoice) under this PPA at any time within three months following the date the invoice (or invoice adjustment) was rendered. In the event that either Party disputes any invoice or invoice adjustment, such Party will nonetheless be required to pay the full amount of the applicable invoice or invoice adjustment (except any portions thereof that are manifestly inaccurate or are not reasonably supported by documentation, payment of which amounts may be withheld subject to adjustment as hereinafter set forth) on the applicable payment due date, except as otherwise expressly provided in this PPA, and to give notice of the objection to the other Party. Any required payment will be made within five Business Days after resolution of the applicable dispute, together with interest accrued at the Late Payment Interest Rate from the due date to the date paid.

9.3 Netting and Setoff. Subject to the provisions of any Financing Documents, the Parties will net any and all mutual debts and payment obligations that are due and owing under this PPA. Accordingly, so long as such action does not violate the provisions of any Financing Documents, all amounts owed by each Party to the other Party under this PPA, including any related damages and any applicable interest, payments or credits, will be netted such that only the excess amount remaining due will be paid by the Party that owes it. Each Party will have the right to set off any undisputed amount due and owing to such Party from the other Party under this PPA against any undisputed amount due and owing from such Party to the other Party under this PPA.

9.4 Records and Audits. Each Party will keep, for a period not less than two years, records sufficient to permit verification of the accuracy of billing statements, invoices, charges, computations and payments relating to this PPA. During such period each Party may, at its sole cost and expense, and upon reasonable notice to the other Party, examine the other Party's records pertaining to this PPA during such other Party's normal business hours.

9.5 Currency. All pricing offered, payments made and amounts referenced hereunder are and will be in U.S. dollars.

ARTICLE 10 REPRESENTATIONS AND WARRANTIES; BUYER ACKNOWLEDGEMENT

10.1 Representations and Warranties. Each Party represents and warrants to the other Party that:

(a) such Party is duly organized, validly existing and in good standing under the laws of the jurisdiction of its formation; the execution, delivery and performance by such Party of this PPA are within its corporate power and authority, have been duly authorized by all necessary corporate, partnership, limited liability, or governing body action, as applicable, and do not violate any of the terms and conditions of such Party's governing documents, any contracts to which such Party is a party, or any applicable Law;

(b) this PPA and each other document executed and delivered in accordance with this PPA constitutes its legally valid and binding obligation enforceable against such Party in accordance with its terms, subject to any bankruptcy, insolvency, reorganization and other Laws affecting creditors' rights generally, and with regard to equitable remedies, the discretion of the applicable court;

(c) such Party is acting for its own account, and has made its own independent decision to enter into this PPA, and is not relying upon the advice or recommendations of the other Party in so doing;

(d) such Party is capable of assessing the merits of and understanding, and understands and accepts, the terms, conditions and risks of this PPA;

(e) such Party understands that the other Party is not acting as a fiduciary for or as an adviser to it or its Affiliates;

(f) except as previously disclosed in writing to the other Party, there is no pending or, to the knowledge of such Party, threatened litigation, action or proceeding against such Party which could reasonably be expected to have a material adverse effect on such Party or its ability to perform its obligations under this PPA or which purports to affect the legality, validity or enforceability of this PPA or the transactions contemplated hereby;

(g) except as previously disclosed in writing to the other Party, there is no pending bankruptcy, reorganization, debt arrangement or other case or proceeding under any bankruptcy or insolvency law, or any dissolution, winding up or liquidation proceeding, in respect to such Party; and

(h) such Party is not a "foreign person" and such Party will not assign or otherwise transfer its rights under this PPA to a "foreign person."

10.2 Additional Representations, Warranties, and Covenants of Buyer. Buyer represents and warrants that:

(a) to Buyer's knowledge there are no facts, circumstances or other matters that may interfere with or delay the construction and installation of the System;

(b) all information provided by Buyer to Seller, as it pertains to the physical configuration of Buyer's facilities at the Property and the Installation Site, is accurate in all material respects;

(c) Buyer is not a public utility or a public utility holding company and is not subject to regulation as a public utility or a public utility holding company.

10.3 Forward Contract.

(a) Buyer acknowledges and agrees that, for purposes of this PPA, Seller is not a "utility" as such term is used in Section 366 of the United States Bankruptcy Code.

(b) The Parties agree this PPA constitutes a 'forward contract' as defined in the United States Bankruptcy Code, and therefore not subject to rejection by a trustee in a bankruptcy proceeding.

ARTICLE 11 INDEMNITY; LIMITATIONS

11.1 Indemnity. Each Party (the "**Indemnitor**") hereby indemnifies and agrees to defend and hold harmless the other Party and its Affiliates, respective officers, directors, employees and agents (the "**Indemnitee**") from and against any and all Indemnity Claims, whether or not involving a third-party claim, caused by, resulting from, relating to or arising out of any breach of this PPA by the Indemnitor or any of its directors, officers, employees or agents or any negligence or intentional misconduct on the part of the Indemnitor or any of its directors, officers, employees or agents; *provided, however*, that the Indemnitor will not have any obligation to indemnify the Indemnitee from or against any Indemnity Claims to the extent caused by, resulting from, relating to or arising out of the gross negligence or intentional misconduct of the Indemnitee or any of its directors, officers, employees or agents.

11.2 Limitation of Remedies, Liability and Damages. The express remedies and measures of damages provided in this PPA satisfy the essential purposes hereof. For breach of any provision for which an express remedy or measure of damages is provided, such express remedy or measure of damages will be the sole and exclusive remedy, the obligor's liability will be limited as set forth in such provision and all other remedies or damages at law or in equity are waived. If no remedy or measure of damages is expressly provided herein, the obligor's liability will be limited to direct actual damages only, such direct actual damages will be the sole and exclusive remedy and all other remedies or damages at law or in equity are waived. Without prejudice to the calculation of the amount of any Termination Payment, neither Party will be liable for consequential, incidental, punitive, special, exemplary or indirect damages, lost profits, lost savings or other business interruption damages, by statute, in tort or under contract, under any indemnity provision or otherwise; *provided, however*, that notwithstanding the foregoing, in no event will the foregoing limitations of liability be applied to limit the extent of the liability of either Party to the other for intentional misconduct or for or with respect to any third party Indemnity Claims. The limitations imposed herein on remedies and the measure of damages are without regard to the applicable cause or causes, including the negligence of any Party, whether such negligence be sole, joint or concurrent, or active or passive.

11.3 Limitation on Warranties. Except as expressly provided in this PPA, each Party hereby disclaims any and all representations, warranties and guarantees, express or implied, including warranties of merchantability and fitness for a particular purpose.

ARTICLE 12 CONFIDENTIALITY, PUBLICITY

12.1 Confidentiality.

(a) Neither Party will use any Confidential Information for any purpose except such Party's performance under this PPA. Furthermore, neither Party will disclose any Confidential Information to any third party (other than (and then only for purposes permitted by this PPA) the Party's or its Affiliates' officers, employees, current

or prospective lenders, counsel, accountants or advisors (collectively, "**Representatives**") who have a need to know such information for the purposes permitted by this Section and who have agreed to keep such terms confidential or are otherwise bound by confidentiality obligations at least as restrictive as those contained herein) except in order to comply with the requirements of any applicable Law or any exchange, control area or independent system operator rule, tariff or agreement or in connection with any judicial or regulatory proceeding or request by a Governmental Entity; *provided, however*, that each Party will use reasonable efforts to prevent or limit any such disclosure. "**Confidential Information**" means information provided by one Party to the other in connection with the negotiation or performance of this PPA that is clearly labeled or designated by the disclosing party as "confidential" or "proprietary" or with words of like meaning or, if disclosed orally, clearly identified as confidential with that status confirmed promptly thereafter in writing.

(b) Parties are advised that Section 6253 of the California Government Code (the Public Records Act) provides that any party may receive a copy of any identifiable public record that is not exempt from disclosure under other provisions of the Public Records Act. The Buyer will disclose such documents unless (1) the data submitted in connection with this PPA is stamped "Confidential Information" or "Proprietary and Confidential"; or (2) the disclosing Party provides a brief explanation of the basis for confidentiality under the Public Records Act.

In the event that the recipient of information is requested by legal or regulatory authority or court order to disclose any Confidential Information, the recipient shall promptly notify the disclosing party of such request or requirement prior to disclosure so that the disclosing party may seek an appropriate protective order and/or waive compliance with this PPA. In the event that a protective order or other remedy is not obtained, or the disclosing party waives compliance with the provisions hereof, the recipient agrees to furnish only that portion of the Confidential Information that it reasonably determines is consistent with the scope of the subpoena or demand, and to exercise commercially reasonable efforts to obtain assurance that confidential treatment will be accorded to such Confidential Information.

(c) Notwithstanding anything to the contrary contained herein, in order for the transactions contemplated by this PPA not to be considered a "Confidential Transaction" within the meaning of United States Treasury Regulation 1.6011-4(b)(3), the Parties (and each Representative of the Parties) may (a) consult any tax advisor/consultant regarding the tax treatment and tax structure relating to the transactions contemplated by this PPA, and (b) may at any time disclose to any Person, without limitation of any kind, the tax treatment and tax structure of the transactions contemplated by this PPA and all materials of any kind (including tax opinions or other tax analysis) that are provided relating to such tax treatment or tax structure.

(d) The obligations of the Parties under this **Article 12** will survive for a period of two (2) years from and after the termination of the transaction to which any Confidential Information relates.

12.2 Publicity.

(a) The Parties will cooperate with each other in connection with the issuance of any press releases regarding the System, this PPA or the transactions contemplated hereby; *provided, however*, that neither Party will not issue any such press releases without the prior consent of the other Party, which consent may be withheld in the other Party's sole discretion.

(b) Subject only to the provisions relating to Confidential Information in **Section 12.1** above, Seller will have the right to publish any factual information or statement related to the System on its website (or the website of an Affiliate) and through other forms of media. Such information may include the location of the System, the name of the Buyer and other features of the System.

ARTICLE 13 DISPUTE RESOLUTION

13.1 The Parties will negotiate in good faith and attempt to resolve any dispute, controversy, or claim arising out of or relating to this PPA (a "**Dispute**") within 30 days after the date that a Party gives written notice of such Dispute to the other Party.

13.2 In the event any Dispute is not settled to the mutual satisfaction of the Parties pursuant to **Section 13.1**, both Parties will retain the right, but not the obligation, to pursue any legal or equitable remedy available to it in a court of competent jurisdiction.

13.3 Any legal action or proceeding brought by either of the Parties against the other Party with respect to this PPA or the transactions in connection with or relating hereto, may be brought in the courts of the County of Tulare and, by execution and delivery of this PPA, each of the Parties hereby irrevocably accepts for itself and in respect of its property, generally and unconditionally, the non-exclusive jurisdiction of the aforesaid court and waives any objection which it may have to the laying of venue of any proceedings brought in any such court; and any claim that such proceedings have been brought in an inconvenient forum. Each of the Parties agrees that a judgment, after exhaustion of all available appeals, in any such action or proceeding will be conclusive and binding upon each of the Parties, and may be enforced in any other jurisdiction, by a suit upon such judgment, a certified copy of which will be conclusive evidence of the judgment. Each Party hereby waives trial by jury in any action, proceeding or counterclaim brought by or on behalf of either Party relating to or arising from this PPA.

ARTICLE 14 NOTICES

All notices, requests, statements or payments will be made to the addresses and persons specified below. All notices, requests, statements or payments will be made in writing except where this PPA expressly provides that notice may be made orally. Notices required to be in writing will be delivered by hand delivery, overnight delivery, facsimile, or e-mail (so long as a copy of such e-mail notice is provided immediately thereafter in accordance with the requirements of this **Article 14** by hand delivery, overnight delivery, or facsimile, unless confirmation of successful transmission is received). Notice by facsimile will (where confirmation of successful transmission is received) be deemed to have been received on the day on which it was transmitted (unless transmitted after 5:00 p.m. at the place of receipt or on a day that is not a Business Day, in which case it will be deemed received on the next Business Day). Notice by hand delivery or overnight delivery will be deemed to have been received when delivered. Notice by e-mail will be deemed to have been received when such e-mail is transmitted, so long as a copy of such e-mail notice is delivered immediately thereafter by hand delivery, overnight delivery, or facsimile with confirmation as noted above respectively. When notice is permitted to be provided orally, notice by telephone will be permitted and will be deemed to have been received at the time the call is received. A Party may change its address by providing notice of the same in accordance with the provisions of this **Article 14**.

Buyer:

The City of Tulare
Public Works Department
3981 South K Street Tulare, CA 93274
Telephone: (561) 644-7325
Fax: (559) 685-2378
Attention: Joseph Carlini, Public Works Director

Seller:

Central CA Fuel Cell 1, LLC
c/o FuelCell Energy, Inc.
3 Great Pasture Road
Danbury, CT 06810
Telephone: (203) 825-6000
Fax: (203) 825-6069
Attention: Legal Department

ARTICLE 15 ASSIGNMENT; FINANCING

(a) Neither Party will have the right to assign or transfer, whether voluntarily or by operation of law, any of its rights, duties or obligations under this PPA without the prior written consent of the other Party, which consent will not be unreasonably withheld, conditioned or delayed, it being understood and agreed that neither Party will be deemed to have unreasonably withheld its consent to such assignment or transfer by the other Party of any or all of the other Party's right, title and interest in and to this PPA if such proposed assignment or transfer is to any Person whose creditworthiness, as reasonably determined by the non-assigning Party, is unsatisfactory. For purposes of this PPA, the following types of transactions shall be deemed assignments subject to the provisions of this Article 15(a): an assignment by a Party (i) to one or more of its Affiliates, (ii) to any present or future owner of the power generated by the System, (iii) to any Person succeeding to all or substantially all of the assets of a Party, (iv) to a successor entity in a merger or acquisition transaction, (v) to one or more Affiliates or third parties in connection with a sale-and-leaseback or other debt and/or equity financing transaction, or (vi) to any Financing Party; *provided that* such prior written consent shall not be required for (iii) or (iv) if prior notice is prohibited by any provision of applicable law, including but not limited to the rules and regulations of the Securities and Exchange Commission. Any assignee under this PPA will agree to be bound by the terms and conditions hereof.

(b) Subject to the foregoing restrictions on assignment, this PPA will inure to the benefit of and be binding upon the Parties and their respective successors and permitted assigns.

(c) Seller shall, within thirty (30) days after the Commercial Operation Date, establish an escrow account with another financial institution reasonably acceptable to Buyer containing the sum of Two Hundred Thousand Dollars (\$200,000) to be held subject to the terms and conditions of an escrow agreement acceptable to both Parties until the later of (i) the end of the Term or (ii) in the event this PPA is terminated prior to the contemplated expiration of the Term, until such time as the obligations secured by the escrow are fully performed or waived by Buyer. The escrow agreement shall provide that such \$200,000 sum is to be allocated as follows: (i) \$100,000 to secure Seller's removal of all equipment and restoration of the Installation Site at the end of the Term or upon earlier termination of this PPA, and (ii) \$100,000 to cover a portion or all of any Natural Gas Breakage Costs. Seller further agrees to pay all Natural Gas Breakage Costs that exceed \$100,000 for a three-year contract period. Seller shall not be responsible for any Natural Gas Breakage Costs for Buyer gas contracts exceeding three years. The costs of such escrow account shall be borne by Seller and all interest shall accrue to Seller.

ARTICLE 16 MISCELLANEOUS

16.1 Governing Law. This PPA will be governed by the Laws of the state of California, without giving effect to principles of conflicts of laws.

16.2 Duty to Mitigate. Notwithstanding any other provision of this PPA, each Party has a duty to mitigate damages and each Party covenants that it will use commercially reasonable efforts to minimize any damages that it may incur as a result of the other Party's performance or non-performance.

16.3 Entire Agreement: Amendments. This PPA (including the exhibits, schedules and any written supplements or amendments) constitutes the entire agreement between the Parties, and will supersede any prior oral or written agreements between the Parties, relating to the subject matter hereof. In order to be effective, any amendment, modification or change to this PPA must be in writing and executed by both Parties.

16.4 Non-Waiver. No failure or delay by either Party in exercising any right, power, privilege or remedy hereunder will operate as a waiver thereof. No waiver by either party of a breach of any term or provision contained herein will be effective unless signed and in writing by the waiving party. No consent by either Party to, or waiver of, a breach by either Party, whether express or implied, will be construed, operate as or constitute a consent to, waiver of or excuse of any other or subsequent or succeeding breach by either Party.

16.5 Severability. If any part, term, or provision of this PPA is determined by a court of competent jurisdiction to be invalid, illegal or unenforceable, such determination will not affect or impair the validity, legality or enforceability of any other part, term or provision of this PPA, and will not render this PPA unenforceable or

invalid as a whole. Rather the part of this PPA that is found invalid or unenforceable will be amended, changed or interpreted to achieve as nearly as possible the same objectives and economic effect as the original provision, or replaced to the extent possible, with a legal, enforceable and valid provision that is as similar in tenor to the stricken provision, within the limits of applicable Law, and the remainder of this PPA will remain in full force and effect.

16.6 No Third Party Beneficiaries. Nothing in this PPA will provide any benefit to any third party or entitle any third party to any claim, cause of action, remedy or right of any kind, except with respect to Seller's Financing Parties to the extent expressly provided herein.

16.7 No Recourse to Affiliates. This PPA is solely and exclusively between the Parties, and any obligations created herein on the part of either Party will be the obligations solely of such Party. No Party will have recourse to any parent, subsidiary, partner, member, Affiliate, lender, director, officer or employee of the other Party for performance or non-performance of any obligation hereunder, unless such obligations were assumed in writing by the Person against whom recourse is sought.

16.8 Relationships of Parties. The Parties are independent contractors, and will not be deemed to be partners, joint venturers or agents of each other for any purpose, unless expressly stated otherwise herein.

16.9 Costs. Each Party will bear its own costs and expenses relating to negotiating this PPA and any additional documents relating hereto or thereto.

16.10 Counterparts. This PPA may be executed in one or more counterparts, each of which is an original and all of which together constitute one and the same instrument. A signature on a copy of this PPA received by either Party by facsimile transmission or electronic signature is binding upon the other Party as an original.

16.11 Further Assurances.

(a) The Parties acknowledge that adjustments in the terms and conditions of this PPA may be appropriate to account for rule changes in the respective Utility or Utility control areas, by the respective independent system operators, or their successors, that could not be anticipated at the date of execution of this PPA or that are beyond the control of the Parties, and the Parties will make such commercially reasonable amendments as are reasonably required to comply therewith.

(b) The Parties will, at their own cost and expense, do such further acts, perform such further actions, execute and deliver such further or additional documents and instruments as may be reasonably required or appropriate to consummate, evidence, or confirm the agreements and understandings contained herein and to carry out the intent and purposes of this PPA.

16.12 Estoppel. Either Party, without charge, at any time and from time to time and within five Business Days after receipt of a written request by the other Party, will deliver a written instrument, duly executed, certifying to such requesting Party, or any other person specified by such requesting Party; (a) that this PPA is unmodified and in full force and effect, or if there has been any modification, that the same is in full force and effect as so modified, and identifying any such modification; (b) whether or not to the knowledge of such Party there are then existing any offsets or defenses in favor of such Party against enforcement of any of the terms, covenants and conditions of this PPA and, if so, specifying the same and also whether or not to the knowledge of such Party the other Party has observed and performed all of the terms, covenants and conditions on its part to be observed and performed, and if not, specifying the same; and (c) such other information as may be reasonably requested by the requesting Party. Any written instrument given hereunder may be relied upon by the recipient of such instrument, except to the extent the recipient has actual knowledge of facts contained in the certificate.

16.13 General Interpretation. The terms of this PPA have been negotiated by the Parties hereto and the language used in this PPA will be deemed to be the language chosen by the Parties hereto to express their mutual intent. This PPA will be construed without regard to any presumption or rule requiring construction against the Party causing such instrument of any portion thereof to be drafted, or in favor of the Party receiving a particular benefit under the PPA. No rule of strict construction will be applied against any Person.

16.14 Technology Considerations.

(a) Stack Integrity. Buyer will not and will not permit its employees, subcontractors, facility operators, site owners or agents to, open any fuel cell modules or otherwise attempt to view the interiors of the fuel cell module without the prior written permission of Seller. Violation of this Section shall be deemed a material breach of the confidentiality provisions set forth in this Agreement. Buyer may open a fuel cell module or allow a fuel cell module to be opened in case of an emergency condition involving the fuel cell module that imperils human life or threatens substantial property damage. If Buyer opens a fuel cell module or allows a fuel cell module to be opened pursuant to this Section, Buyer will (i) notify Seller in writing within 24 hours (ii) limit such intrusion into the fuel cell module as narrowly as possible, and (iii) treat any information learned or discovered thereby as confidential and proprietary information and protect the same pursuant to **Section 12.1** and this Section.

(b) Software and Other Intellectual Property Integrity. Buyer will not, and will not permit its employees, subcontractors, facility operators, site owners or agents to reproduce, distribute, transmit or modify the fuel cell software or other intellectual property; nor will Buyer, its employees, subcontractors, facility operators, site owners or agents reverse engineer or decompile the software or other intellectual property for any purpose, or permit others to do so.

Intending to be legally bound, Seller and Buyer have signed this PPA through their duly authorized representatives effective as of the date set forth by their respective signatures below.

CENTRAL CA FUEL CELL 1, LLC
a Delaware limited liability company

By: _____
Name: _____
Title: _____
Date: _____

THE CITY OF TULARE

By: _____
Name: _____
Title: _____
Date: _____

EXHIBIT A

SCHEDULE OF DEFINITIONS AND RULES OF INTERPRETATION

1. **Definitions.** The definitions provided below and elsewhere in this PPA will apply to the defined terms used in this PPA:

- (a) **"Affiliate"** means, with respect to any entity, such entity's general partner or manager, or any other entity that, directly or indirectly, through one or more intermediaries, controls, or is controlled by, or is under common control with, such entity.
- (b) **"Bankrupt"** means that a Party or other entity (as applicable): (i) is dissolved (other than pursuant to a consolidation, amalgamation or merger); (ii) becomes insolvent or is unable to pay its debts or fails (or admits in writing its inability) generally to pay its debts as they become due; (iii) makes a general assignment, arrangement or composition with or for the benefit of its creditors; (iv) has instituted against it a proceeding seeking a judgment of insolvency or bankruptcy or any other relief under any bankruptcy or insolvency Law or other similar Law affecting creditor's rights, or a petition is presented for its winding-up, reorganization or liquidation, which proceeding or petition is not dismissed, stayed or vacated within forty-five (45) Business Days thereafter; (v) commences a voluntary proceeding seeking a judgment of insolvency or bankruptcy or any other relief under any bankruptcy or insolvency Law or other similar Law affecting creditors' rights; (vi) seeks or consents to the appointment of an administrator, provisional liquidator, conservator, receiver, trustee, custodian or other similar official for it or for all or substantially all of its assets; (vii) has a distress, execution, attachment, sequestration or other legal process levied, enforced or sued on or against all or substantially all of its assets except for, with respect to Seller, any enforcement of rights by Seller's Financing Parties pursuant to the Financing Documents; (viii) causes or is subject to any event with respect to it which, under the applicable Laws of any jurisdiction, has an analogous effect to any of the events specified in clauses (i) to (vii) inclusive; or (ix) takes any action in furtherance of, or indicating its consent to, approval of, or acquiescence in, any of the foregoing acts.
- (c) **"Business Day"** means any day except a Saturday, Sunday, or a Federal Reserve Bank holiday.
- (d) **"Code"** means the Internal Revenue Code of 1986, as amended.
- (e) **"Commercial Operation"** means that the System is ready for regular, daily operation, has been connected to the Installation Site electrical system, has undergone testing as provided herein, is in compliance with applicable Laws in all respects and is capable of producing Energy Output.
- (f) **"Commercial Operation Date"** means the first day on which the System is ready for Commercial Operation as certified in writing by Seller to Buyer in the Notice of Commercial Operation.
- (g) **"Contract Year"** means each consecutive 12-month period commencing on the Commercial Operation Date.
- (h) **"Consumables"** shall mean the water treatment salts, catalysts, adsorbents, purge gases, specialty gases, filters, gaskets, o-rings, fasteners and washers which are necessary for maintenance and for the System to perform its functions.
- (i) **"Credit Rating"** will mean, with respect to any entity on any date of determination, the respective rating then assigned to its senior unsecured bonds by Standard & Poor's Ratings Services (a division of McGraw Hill) or Moody's Investors Service, Inc., or their respective successors.
- (j) **"Electricity"** means electric energy (alternating current, expressed in kilowatt-hours).
- (k) **"Energy Output"** means Electricity generated by the System and delivered to Buyer at the Electricity Delivery Point, as metered in whole kilowatt-hours (kWh) at the Metering Device. The Electricity Output delivered to Buyer at the Delivery Point will be deemed to be equal to the energy

measured at the Metering Device; actual energy losses between the Metering Device and the Delivery Point will not affect the Electricity Output.

- (l) ***“Energy Payment Rate”*** will have the meaning ascribed to it in **Section 3.6** of the PPA.
- (m) ***“Energy Payment Rate Increase Factor”*** means the factor expressed in percent by which the Energy Payment Rate will increase from one Contract Year to another as set forth in **Exhibit F** hereto.
- (n) ***“Environmental Attributes”*** means any and all credits, benefits, emissions reductions, offsets, and allowances, howsoever titled, attributable to the System, the generation of electrical energy from the System, and its displacement of conventional energy generation. Environmental Attributes include (1) Renewable Energy Credits; (2) any avoided emissions of pollutants to the air, soil or water such as sulfur oxides (SO_x), nitrogen oxides (NO_x), carbon monoxide (CO) and other pollutants; and (3) any avoided emissions of carbon dioxide (CO₂), methane (CH₄), nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride and other greenhouse gases (GHGs) that have been determined by the United Nations Intergovernmental Panel on Climate Change, or otherwise by law, to contribute to the actual or potential threat of altering the Earth’s climate by trapping heat in the atmosphere, irrespective of whether such Environmental Attributes accrue for the benefit of Buyer, any Affiliate, or any investor of Buyer to any Affiliate. Environmental Attributes do not include (i) emission reduction credits encumbered or used by the System for compliance with local, state, or federal operating and/or air quality permits, and (ii) Environmental Incentives.
- (o) ***“Environmental Incentives”*** means (i) California self-generation incentive program payments, and (ii) any and all other Utility incentives related to Buyer’s procurement of the Energy Output and Thermal Output from the System.
- (p) ***“Financing Documents”*** means the loan and credit agreements, notes, bonds, indentures, security agreements, lease financing agreements, mortgages, interest rate exchanges, or swap agreements, and any other documents relating to the development, bridge construction or the permanent financing for the System, even if more than one financing arrangement exists at any time and even if the financing arrangements are of different tiers or tranches, including any credit enhancement, credit support, working capital financing, or refinancing documents, and any and all amendments, modifications or supplements to the foregoing that may be entered into from time to time. ***“Seller’s Financing Parties”*** means any Persons, and their permitted successors and assignees, providing funding in connection with any development, bridge, construction, permanent debt or tax equity financing, sale-leaseback financing or refinancing for the System.
- (q) ***“Financing Parties”*** means any Persons, and their permitted successors and assignees, providing funding in connection with any development, bridge, construction, permanent debt, or tax equity financing, sale-leaseback financing or refinancing for the System.
- (r) ***“Force Majeure”*** means any event or circumstance that prevents a Party from performing its obligations under this PPA, which event or circumstance (i) is not within the reasonable control, or is not the result of the negligence, of the Claiming Party, examples of ‘not within the reasonable control’ include blizzard, hurricane, earthquake, volcano, war, strikes, fires, floods, acts of God, civil disobedience, and declaration of bankruptcy by an equipment supplier, and (ii) by the exercise of reasonable due diligence, the Claiming Party is unable to overcome or avoid or cause to be avoided. Force Majeure will not be based on (i) Buyer’s inability economically to use Energy Output purchased hereunder or to pay amounts owed hereunder or (ii) Seller’s ability to sell Electricity generated by the System at a price greater than the price of Energy Output under this PPA. Notwithstanding the foregoing, with respect to Buyer, Force Majeure shall include a budget non-appropriation event in which Buyer’s appropriation for any Contract Year does not appropriate funds for the procurement of any Utility Services for Buyer. For purposes of this definition of Force Majeure only, the term Utility Services shall include, electricity from any source, including but not limited to the local electric utility, any competitive

electric supplier, any provider under another power purchase agreement, or another distributed generation source. During the continuation of a budget non-appropriation event as defined above, if the Buyer does not otherwise have other funds available to make payments otherwise due on this Agreement, the Buyer shall not be obligated to pay for (and the Seller shall not be required to deliver) any services provided under this Agreement until the budget non-appropriation event has terminated. Buyer agrees that it shall use its best efforts to seek appropriation for utility services during the term of this Agreement. Any failure of Buyer to make payments due under this Agreement other than due to a budget non-appropriation event as described herein shall constitute an Event of Default as set forth in Section 7.1(a).

(s) **“General System Description”** means the conceptual design of the System as of the Effective Date. After the Effective Date, the Parties will continue to work to refine and finalize the System General Description.

(t) **“Governmental Charges”** means all applicable federal, state and local taxes (other than taxes based on income or net worth but including sales, use, gross receipts or similar taxes), governmental charges, emission allowance costs, duties, tariffs, levies, licenses, fees, permits, assessments, adders or surcharges (including public purposes charges and low income bill payment assistance charges), imposed or authorized by a Governmental Entity, independent system operator, utility, transmission and distribution provider or other similar entity, on or with respect to the Energy Output or this PPA.

(u) **“Governmental Entity”** means any government or any agency, bureau, board, commission, court, department, official, political subdivision, tribunal, program administrator or other instrumentality of any government, whether federal, state or local, domestic or foreign, or any Person, owned, operated, managed or otherwise controlled thereby, but not including the Buyer.

(v) **“Hazardous Material”** means any substance, waste, contaminant or other material that is listed, defined, designated, classified or regulated as hazardous, radioactive or toxic, or as a pollutant or contaminant, under or pursuant to any environmental Law or Governmental Approval.

(w) **“Indemnity Claims”** means all losses, liabilities, damages, costs, expenses and attorneys’ fees, whether incurred by settlement or otherwise, related to injury to persons or damage to property.

(x) **“Industry Standards”** means good utility practices and those practices, methods, procedures and standards generally prevailing, and as may change from time to time, that are commonly used or applied in the United States of America in the economical and prudent performance of work that is identical or substantially similar to the work to be performed hereunder and in the economical and prudent engineering, design, procurement, fabrication, assembly and construction of fuel cell generation facilities similar to the System. Industry Standards also shall include any of the practices, methods and acts that, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost. Industry Standards are not intended to be the optimum practice, method or act to the exclusion of all others, but rather to be a spectrum of acceptable practices, methods or acts generally accepted in the applicable industry.

(y) **“Investment Tax Credit”** means the value of the investment tax credit under Section 48 of the Internal Revenue Code as in effect from time to time during the Term or any successor or replacement provision providing for a state or federal investment tax credit determined by reference to electric energy produced by the System that Seller, as owner of the System, is, at the applicable time, eligible to receive. The Investment Tax Credit does not include investment tax credits, grants, loans or any incentives other than those specifically referred to as investment tax or energy credits in Section 48 of the Internal Revenue Code or any successor or replacement provision providing for a state or federal investment tax credit available to owners of fuel cell electric generating facilities.

(z) **“Late Payment Interest Rate”** means, for any date, the lesser of (i) the per annum rate of interest equal to the Prime lending rate as may from time to time be published in The Wall Street Journal under

“Money Rates” on such day (or, if not published on such day, on the most recent preceding day on which published), and (ii) the maximum rate permitted by applicable Law.

(aa) “**Law**” means any national, regional, state or local law, statute, rule, regulation, code, ordinance, administrative ruling, judgment, decree, order, or directive of any jurisdiction applicable to this PPA, the System, the Installation Site, or the transaction contemplated hereby.

(bb) “**Lost Production**” means the sum of total Electricity Output, in kWh, that is not generated by the System as a proximate result of (i) System Loss caused by Buyer Misconduct, (ii) Buyer’s failure, for any reason whatsoever, excluding Force Majeure, to deliver natural gas or water supply in the required quantities at the Utility Delivery Point(s), (iii) Buyer-initiated Installation Site maintenance events requiring a shutdown or curtailment of System operation, and (iv) complete or partial shutdown of Buyer’s facilities on the Property for any reason whatsoever, excluding Force Majeure. For the avoidance of doubt, outages for scheduled maintenance of the System do not constitute Lost Production.

(cc) “**Metering Device**” means the manufacturer’s onboard instrumentation utilized for the registration, recording, and transmission of information regarding the Energy Output generated by the System.

(dd) “**Natural Gas Breakage Costs**” means, in the event of a default by Seller, any charges, costs, or fees owed by Buyer pursuant to the terms of a written agreement between Buyer and a natural gas supplier for the supply of gas to the System.

(ee) “**Person**” means an individual, general or limited partnership, corporation, municipal corporation, business trust, joint stock company, trust, unincorporated association, joint venture, Governmental Entity, limited liability company, or any other entity of whatever nature.

(ff) “**Reporting Rights**” means the right of Buyer or Seller, as applicable, to report to any Governmental Entity, utility or other party, including under Section 1605(b) of the Energy Policy Act of 1992 and provisions of the Energy Policy Act of 2005, or under any present or future domestic, international or foreign emissions trading program, that Buyer or Seller, as applicable, owns the Environmental Attributes and the Environmental Incentives associated with the Energy Output.

(gg) “**System**” will have the meaning ascribed to it in the Recitals.

(hh) “**System Assets**” means each and all of the assets of which the System is comprised, and other related equipment and components installed on the Installation Site, electric lines, conduits and other facilities required to connect such equipment to the Delivery Point and to the electric distribution and transmission grid, protective and associated equipment, improvements, and other tangible and intangible assets, permits, property rights and contract rights reasonably necessary for the construction, operation, and maintenance of the System.

(ii) “**System Incentives**” means any and all (i) Investment Tax Credits attributable to the System, (ii) accelerated depreciation attributable to the System, and (iii) fuel-related subsidies and other one-time Utility incentives related to construction and interconnection.

(jj) “**System Loss**” means loss, theft, damage or destruction of the System or System Assets, or any other occurrence or event that prevents or limits the System from operating in whole or in part, resulting from or arising out of any cause (including casualty, condemnation or Force Majeure).

(kk) “**Termination Payment**” means the amount equal to the net present value (using a discount rate of 9%) of the sum of all payments at the Energy Payment Rate that would have been paid during the Term had this PPA not terminated before expiration of the Term, assuming that the Electricity Output for each Contract Year of the remainder of the Term is equal to the Output Guarantee for that Contract Year, plus reasonable costs of System removal, and any recapture of Investment Tax Credits, as determined by Seller in a commercially reasonable manner; *provided that* Seller shall use commercially reasonable efforts to mitigate such costs.

(ll) **“Thermal Energy”** means thermal energy produced by the System and delivered to Buyer at the Thermal Energy Delivery Point.

(mm) **“Utility”** means the electric utility (including municipal or cooperative utility, as applicable) serving Buyer in the service territory in which Buyer is located at any given time.

2. Rules of Interpretation. In this PPA, unless expressly provided otherwise:

(a) the words “herein,” “hereunder” and “hereof” refer to the provisions of this PPA and a reference to a recital, Article, Section, subsection or paragraph of this PPA or any other agreement is a reference to a recital, Article, Section, subsection or paragraph of this PPA or other agreement in which it is used unless otherwise stated;

(b) references to this PPA, or any other agreement or instrument, includes any schedule, exhibit, annex or other attachment hereto or thereto;

(c) a reference to a paragraph also refers to the subsection in which it is contained, and a reference to a subsection refers to the Section in which it is contained;

(d) a reference to this PPA, any other agreement or an instrument or any provision of any of them includes any amendment, variation, restatement or replacement of this PPA or such other agreement, instrument or provision, as the case may be;

(e) a reference to a statute or other Law or a provision of any of them includes all regulations, rules, subordinate legislation and other instruments issued or promulgated thereunder as in effect from time to time and all consolidations, amendments, re-enactments, extensions or replacements of such statute, Law or provision;

(f) the singular includes the plural and vice versa;

(g) a reference to a Person includes a reference to the Person’s executors and administrators (in the case of a natural person) and successors, substitutes (including Persons taking by novation) and permitted assigns;

(h) words of any gender will include the corresponding words of the other gender;

(i) “including” means “including, but not limited to,” and other forms of the verb “to include” are to be interpreted similarly;

(j) references to “or” will be deemed to be disjunctive but not necessarily exclusive, (i.e., unless the context dictates otherwise, “or” will be interpreted to mean “and/or” rather than “either/or”);

(k) where a period of time is specified to run from or after a given day or the day of an act or event, it is to be calculated exclusive of such day; and where a period of time is specified as commencing on a given day or the day of an act or event, it is to be calculated inclusive of such day;

(l) a reference to a Business Day is a reference to a period of time commencing at 9:00 a.m. local time on a Business Day and ending at 5:00 p.m. local time on the same Business Day;

(m) if the time for performing an obligation under this PPA expires on a day that is not a Business Day, the time will be extended until that time on the next Business Day;

(n) a reference to (i) a day is a reference to a calendar day unless the defined term “Business Day” is used, (ii) a month is a reference to a calendar month and (iii) a year is a reference to a calendar year;

(o) where a word or phrase is specifically defined, other grammatical forms of such word or phrase have corresponding meanings;

(p) a reference to time is a reference to the time in effect in San Diego, California on the relevant date; and

(q) if a payment prescribed under this PPA to be made by a Party on or by a given Business Day is made after 2:00 pm Pacific Prevailing Time on such Business Day, it is taken to be made on the next Business Day.

EXHIBIT B

PROPERTY

Address:

Legal Description:

EXHIBIT C

Utility Specifications for Water



FuelCell Energy
World Leader in Ultra-Clean Power

Document Information

Document Number: 5680

Revision: D

Document Title: DFC Water Specifications

Effective Date: 04 Oct 2016

Author: KSHELDEN

Owner: Dept-Engineering

Vault: ENG-rel

Status: Release

Document Type: Specifications-General

Change Number: ECO890

Previous Number:

Document Notes:

CTTP.

Water Specification for Direct FuelCell® Powerplants

1.0 Introduction

This document describes the requirements of bulk composition and impurity limits for the water feeds to FuelCell Energy's Direct FuelCell powerplants.

2.0 General Specifications:

The water supply specifications are shown in Table 1. Water quality outside this range of composition and supply pressure will require additional equipment. Table 1 applies to FCE's three powerplant products. Water flow rate requirements for the three powerplants are described below.

3.0 DFC300 Flow and Pressure Requirements:

The powerplant water treatment system treats and stores water needed in the fuel cell internal reforming reaction. While it fills the tank, it typically draws about 1.5 gpm (.34 m³/h) of supply water (this can vary based on water quality, particularly if water quality is outside the range listed in Table 1). When the tank is full, the powerplant draws no water. During periodic back-flushes of the water treatment equipment, the system draws and discharges 10 gpm (2.3 m³/h). This 10 gpm (2.3 m³/h) draw and the 55 psig (379kPA-g) minimum pressure are the

key criteria to meet in specification of the supply water.

4.0 DFC1500 Flow and Pressure Requirements:

The DFC1500 has the following water uptake: While the water system fills the tank, it typically draws about 6 gpm (1.4 m³/h) of supply water (this can vary based on water quality, particularly if water quality is outside the range listed in Table 1). When the tank is full, the powerplant draws no water. During periodic back-flushes of the water treatment equipment, the system draws and discharges 15 gpm. (3.4 m³/h) This 15 gpm draw and the 55 psig (379kPA-g) minimum pressure are the key criteria to meet in specification of the supply water.

5.0 DFC3000 Flow and Pressure Requirements:

The powerplant water treatment system treats and stores water needed in the fuel cell internal reforming reaction. While it fills the tank, it typically draws about 12 gpm (2.7 m³/h) of supply water (this can vary based on water quality, particularly if water quality is outside the range listed in Table 1). When the tank is full, the powerplant draws no water. During periodic back-flushes of the water treatment equipment, the system draws and discharges 30 gpm (6.8 m³/s). This 30 gpm draw and the 55 psig (379kPA-g) minimum pressure are the key criteria to meet in specification of the supply water.



ITEM	UNITS	Maximum Limits
Aluminum	mg/l	0.1
Ammonium	mg/l	1.0
Barium (Ba)	mg/l	0.2
Bicarbonate Alkalinity (HCO ₃)	mg/l as CaCO ₃	90
Boron (B)	mg/l	0.05
Carbon Dioxide (CO ₂)	mg/l	7.2 (Note 2)
Calcium (Ca)	mg/l as CaCO ₃	425
Chloride (Cl)	mg/l	250
Copper (Cu)	Mg/l	1.0
Ferric Ion (Fe 3+)	mg/l	0.05
Fluoride (F)	mg/l	2.0
Free Residual Chlorine (HOCl and OCl)	mg/l	1 (Note 1)
Iron (Fe)	mg/l	0.3
Magnesium (Mg)	mg/l as CaCO ₃	205
Manganese (Mn)	mg/l	0.1
Monochloramine (NH ₂ Cl)	mg/l	0.04 (Note 1)
Nitrate (NO ₃)	mg/l	10
Ozone (O ₃)	mg/l	0.01 (Note 2)
Potassium (K)	mg/l	5.0
pH		6.5 – 9.0 (Note 3)
Phosphate (P)	mg/l	0.1
Sodium (Na)	mg/l	100
Pressure	psig	55-70
Strontium (Sr)	mg/l	2
Sulfate (SO ₄)	mg/l	250
Temperature	°F	45-90
Total Alkalinity	mg/l as CaCO ₃	150
Total Dissolved Solids (TDS)	mg/l	525
Total Hardness	mg/l as CaCO ₃	600
Total Hydrogen Sulfide (H ₂ S)	mg/l	0.1
Total Organic Carbon (TOC)	mg/l as C	5
Total Silica (SiO ₂)	mg/l	30
Total Suspended Solids (TSS)	mg/l	1
Turbidity	NTU	1
Zinc (Zn)	mg/l	5.0

Table 1: Powerplant Supply Water Specification

- (1) Total Chlorine Levels above specification limit can be reviewed for capability up to 5 PPM but may affect maintenance intervals and consumable costs.
- (2) Ozone/CO₂ above specification limit can be handled with additional equipment.
- (3) Certain combinations of low pH and high bicarbonate alkalinity will need to be reviewed for system capability and may require additional equipment.

EXHIBIT D

[Form of Memorandum of License]

RECORDING REQUESTED

AND WHEN RECORDED

RETURN TO: _____

(space above this line reserved for recorder's use)

MEMORANDUM OF LICENSE

THIS MEMORANDUM OF LICENSE is made and entered into the day of June, 2011 by and between The City of Tulare. ("**Licensor**") and Central CA Fuel Cell 1, LLC ("**Licensee**")

A. Licensor is the owner of certain real property ("**Property**"), located in Tulare County, California, described in Exhibit A attached to and incorporated herein by reference.

B. Licensor and Licensee have entered into a Power Purchase PPA dated as of _____, 2016 (the "**PPA**") under which Licensee has agreed to finance, design, develop, and operate a fuel cell electric generating system ("**System**") for Licensor on the Property.

C. Licensor and Licensee have executed and acknowledged this Memorandum of License and are recording the same for the purpose of providing constructive notice of the PPA and Licensee's rights there under. Capitalized terms used and not defined herein shall have the meaning ascribed to them in the PPA.

NOW, THEREFORE, for and in consideration of the promises, covenants and agreements of Licensor and Licensee contained in the PPA and herein, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Licensor and Licensee agree as follows:

1. Licensor hereby grants to Licensee and to Licensee's agents, employees and contractors a non-exclusive license (the "**License**") for access to, on, over, under and across the Property as more particularly described in Exhibit B (the "**License Area**") for the purposes of (a) installing, constructing, operating, owning, maintaining, accessing, removing and replacing the System; (b) performing all of Licensee's obligations and enforcing all of Licensee's rights as set forth in the PPA; and (c) installing, using and maintaining electric lines and equipment, including inverters and meters, necessary to interconnect the System to Licensor's electric system at the Property and/or to the Utility's electric distribution system or that otherwise may from time to time be useful or necessary in connection with the construction, installation, operation, maintenance or repair of the System.

2. The term of the License shall expire on the date that is one hundred twenty (120) days after the expiration of the PPA.

3. The System shall at all times remain the personal property of Licensee and shall not be deemed to be a part of, or fixture to, the Property. Licensor shall have no ownership, lien, security or other interest (including any lien that might otherwise be implied by law in the System, or in any profits or income derived there from.

4. The PPA is for the additional purposes, is of the nature, and is subject to the requirements and limitations, set forth therein. The PPA also contains various other covenants, obligations, and rights of the parties, including, without limitation, provisions relating to payments, repairs and maintenance, ownership of tax credits, notices, outages, relocation, and removal of the System, assignment, and financing protections.

5. The Property shall be held, conveyed, hypothecated, encumbered, leased, used and occupied subject to the covenants, terms and provisions set forth in the PPA, License, and herein, which shall run with the Property and each portion thereof and interest therein as equitable servitudes, and shall be binding upon and inure to the benefit of the parties and any other person or entity having any interest therein during their ownership thereof, and their respective grantees, heirs, executors, administrators, successors and assigns, and all persons claiming under them.

6. The terms, conditions, and covenants of the PPA and the License are incorporated herein by reference as though fully set forth herein. This Memorandum of License shall not be deemed to modify, alter, or amend in any way the provisions of the License or the PPA. In the event of a conflict between the terms of the License and/or the PPA and this Memorandum, the terms of the License and/or the PPA, as applicable shall control.

7. This Memorandum of License may be executed with counterpart signature pages and in duplicate originals, each of which shall be deemed an original, and all of which shall collectively constitute a single instrument.

The undersigned have executed this Memorandum of License as of the date first written above.

LICENSOR:

THE CITY OF TULARE

By: _____
Name: _____
Title: _____

STATE OF [INSERT]

COUNTY OF

On _____, before me _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

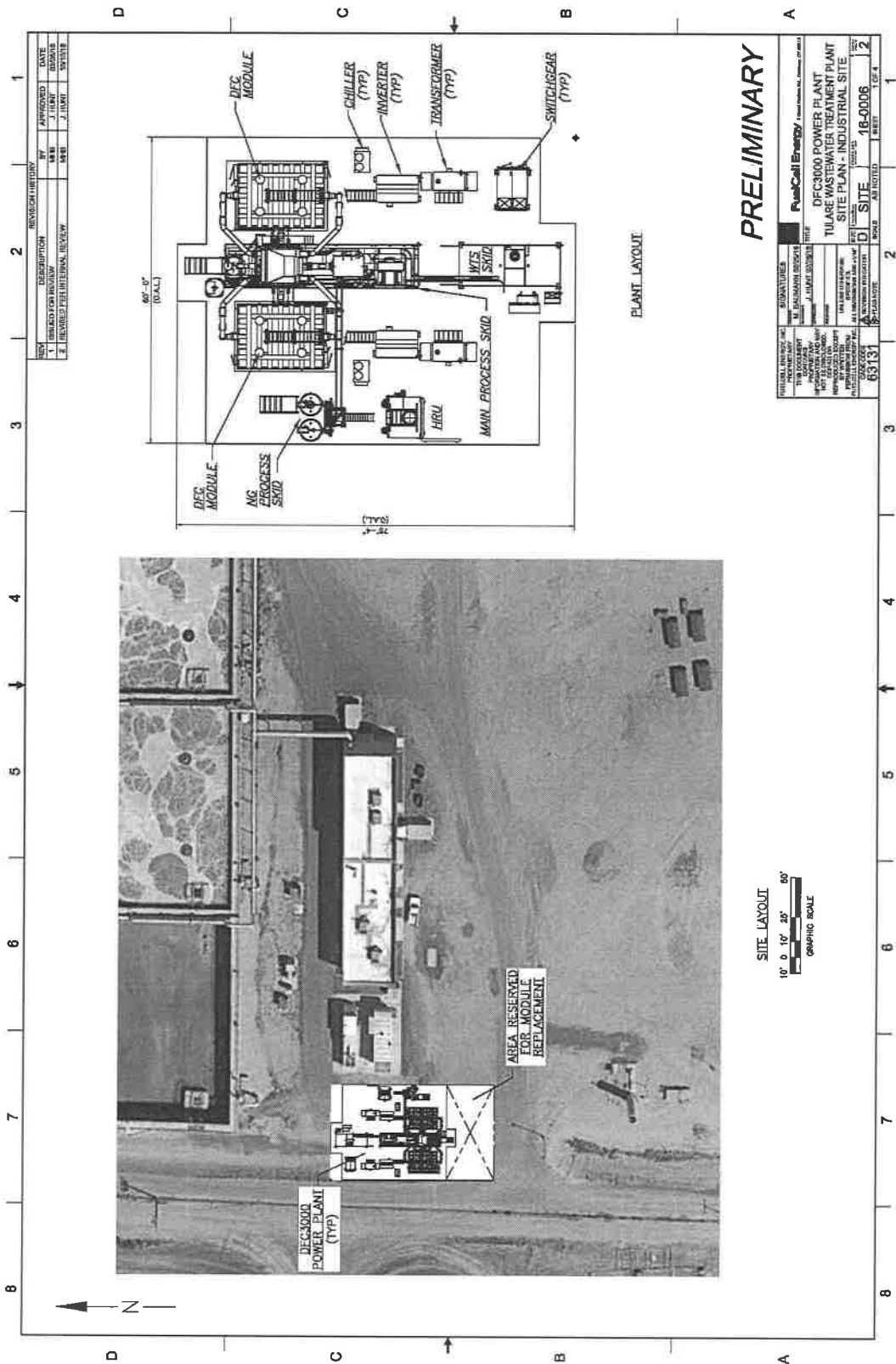
Signature of Notary Public

EXHIBIT E

ELECTRICITY DELIVERY POINT AND THERMAL DELIVERY POINT

Electrical Delivery Point

The DFC3000™ Main Power Distribution System One Line drawing is provided below. In this configuration the electrical point of connection is on the Industrial Side, Switchboard #5. The physical tie-in locations from the plant switchgear to Switchboard #5 are shown on the Site Layout Diagram in this section.



PRELIMINARY

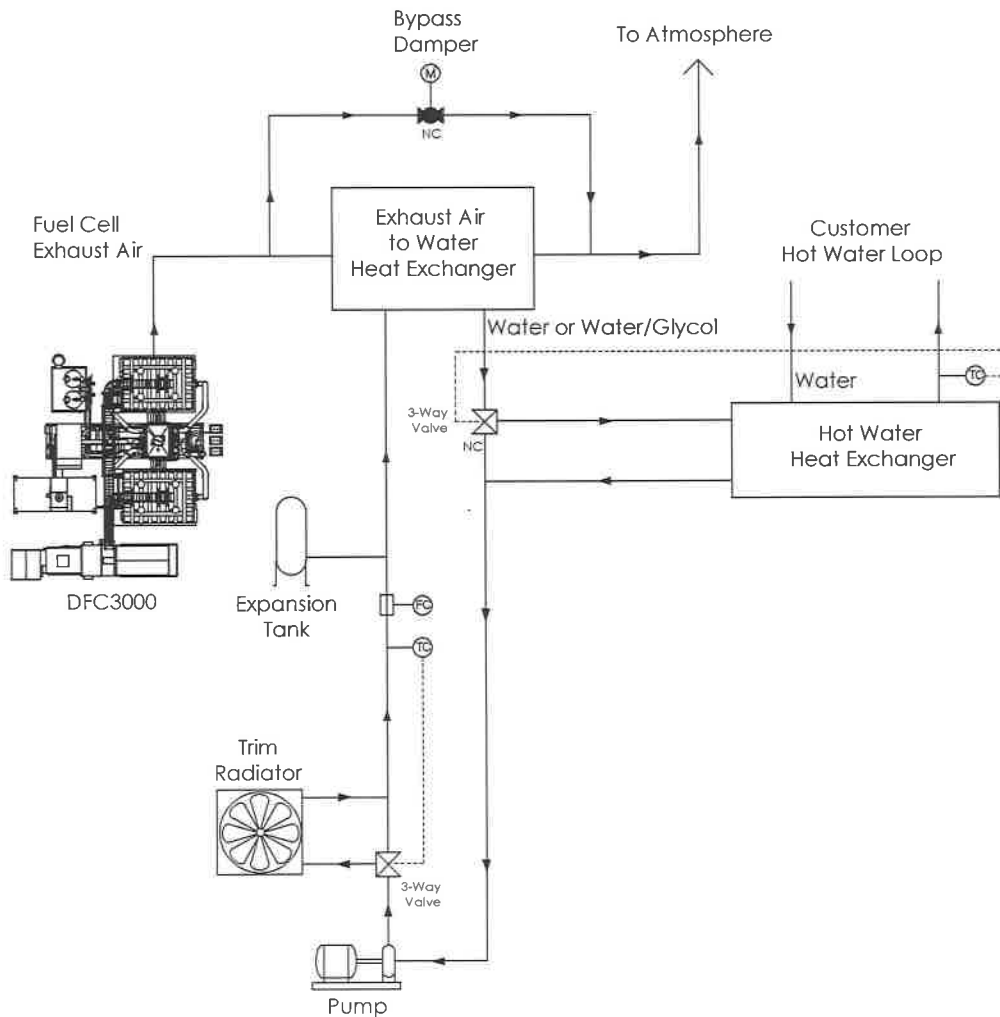
PROJECT NO.	63131	DATE	10/15/13
PROJECT NAME	DFC3000 POWER PLANT	PROJECT NO.	16-0006
CLIENT	TULARE WASTEWATER TREATMENT PLANT	PROJECT NAME	SITE PLAN - INDUSTRIAL SITE
DESIGNER	FullCall Energy	PROJECT NO.	16-0006
DATE	10/15/13	PROJECT NAME	SITE PLAN - INDUSTRIAL SITE
PROJECT NO.	63131	PROJECT NO.	16-0006
PROJECT NAME	DFC3000 POWER PLANT	PROJECT NAME	SITE PLAN - INDUSTRIAL SITE
CLIENT	TULARE WASTEWATER TREATMENT PLANT	PROJECT NO.	16-0006
DESIGNER	FullCall Energy	PROJECT NAME	SITE PLAN - INDUSTRIAL SITE
DATE	10/15/13	PROJECT NO.	16-0006
PROJECT NO.	63131	PROJECT NAME	SITE PLAN - INDUSTRIAL SITE

Site Layout Diagram

A - Electrical Delivery Point Location Switchboard 5 for both imported and exported Electricity **B** - Thermal Delivery Point Location, Water, Sanitary Sewer and Communications Tie-Ins **C** - Natural Gas Delivery Point Location

Thermal Delivery Point

FuelCell Energy will install two heat exchangers for heat recovery from the fuel cell power plant. The first heat exchanger is an Exhaust Air to Water Heat Exchanger (HRU) which can transfer up to 4.4 MMBtu/hr from the fuel cell exhaust stream to a dedicated hot water loop. This hot water loop will flow through the system illustrated below at a rate of ~210,000 lb/h and will circulate from the HRU at 180°F. It will then transfer heat through the second hot water heat exchanger to the customer supplied hot water loop and return to the HRU at 160°F. The hot water heat exchanger will be located in the Industrial Boiler Room for ease of access to the Tulare heating hot water infrastructure.



The Site Layout Diagram, shown below, shows the physical location of the tie-in for the hot water heat exchanger. Also designated on the diagram are the water, sanitary sewer and the communications tie-in points. These will all be inside the boiler room at a mutually agreeable location. The potable water will be sub-metered. The natural gas delivery point is also designated on the diagram; this delivery will be made by the utility at a mutually agreeable location adjacent to the fuel cell facility.

EXHIBIT F

ENERGY PAYMENT RATE

\$0.0730/kWh in Contract Year 1, escalating annually at 2.5%

Exhibit G

Output Guaranty

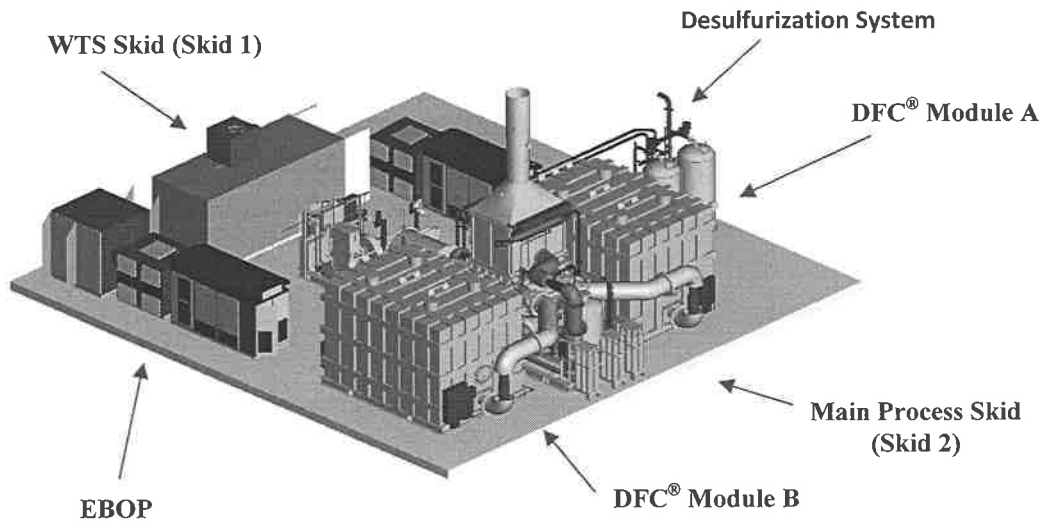
Contract Year	Guaranteed Output in MWh
1	20006
2	19559
3	19112
4	18665
5	18218
6	19439
7	19731
8	19421
9	19112
10	18802
11	18493
12	18183
13	19439
14	19731
15	19421
16	19112
17	18802
18	18493
19	18183
20	17342

Exhibit H

General System Description

FuelCell Energy shall install a DFC3000™ Combined Heat and Power fuel cell at the Tulare WWTP. The DFC3000 powerplant is capable of providing high quality electric power using natural gas, anaerobic digester gas and a variety of other high methane content industrial gasses as fuel. This powerplant will operate on natural gas as the fuel source. The powerplant consists of multiple skids classified into three major subsystems (as shown in the figure below):

- **Mechanical Balance of Plant (MBOP):** The MBOP is comprised of three separate components; the Desulfurization system, the Main Process skid, and the Water Treatment System (WTS) skid. The MBOP supplies fresh air, cleans and heats fuel and water, and includes the powerplant control system.
- **Electrical Balance of Plant (EBOP):** The EBOP is comprised of four sections; two inverters and two transformers. The connection to the grid requires additional switchgear which is provided by the customer or (optionally) FCE. The EBOP converts the fuel cell DC power into utility grade AC power.
- **DFC Module:** The DFC3000™ powerplant includes two DFC Modules. The DFC module performs the electrochemical conversion of the continuous fuel supply into DC electric power. Each DFC Module contains four fuel cell stacks. Each stack contains the assembly of electrochemical cells that produce DC power. Resembling a large battery, each of the four stacks is constructed of approximately 400 individual fuel cells clamped together with manifolds inside an insulated container.

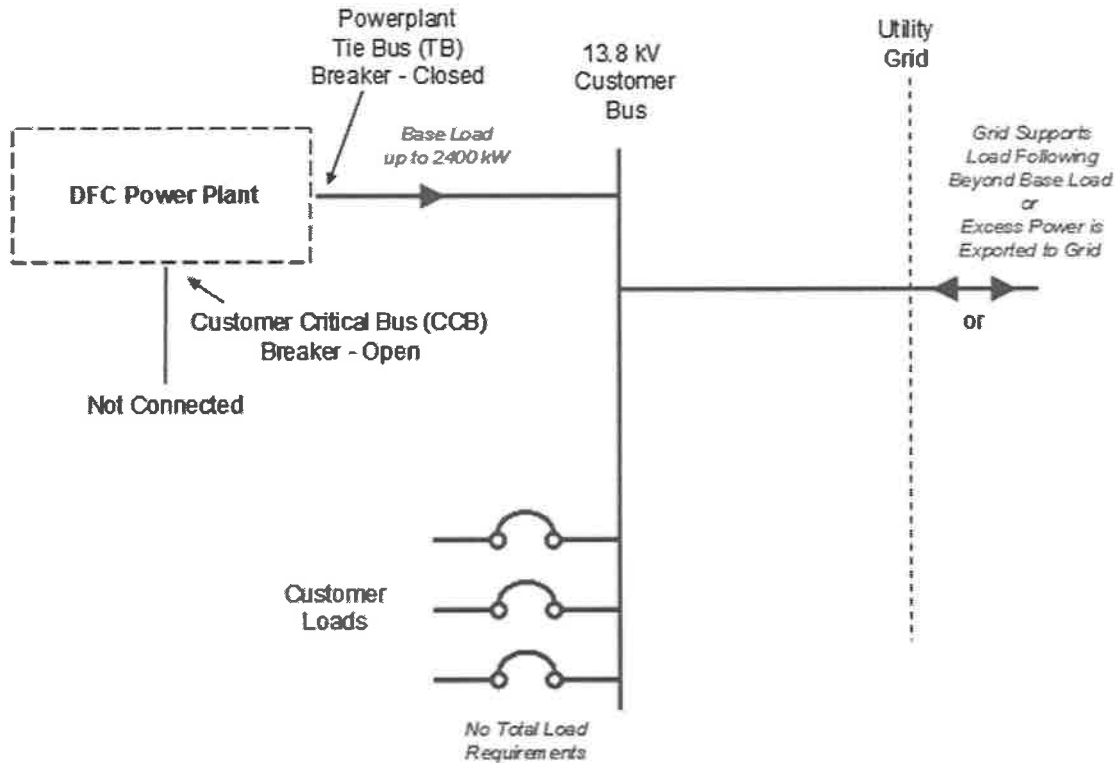


- An example of an installed system is shown in the photograph below.



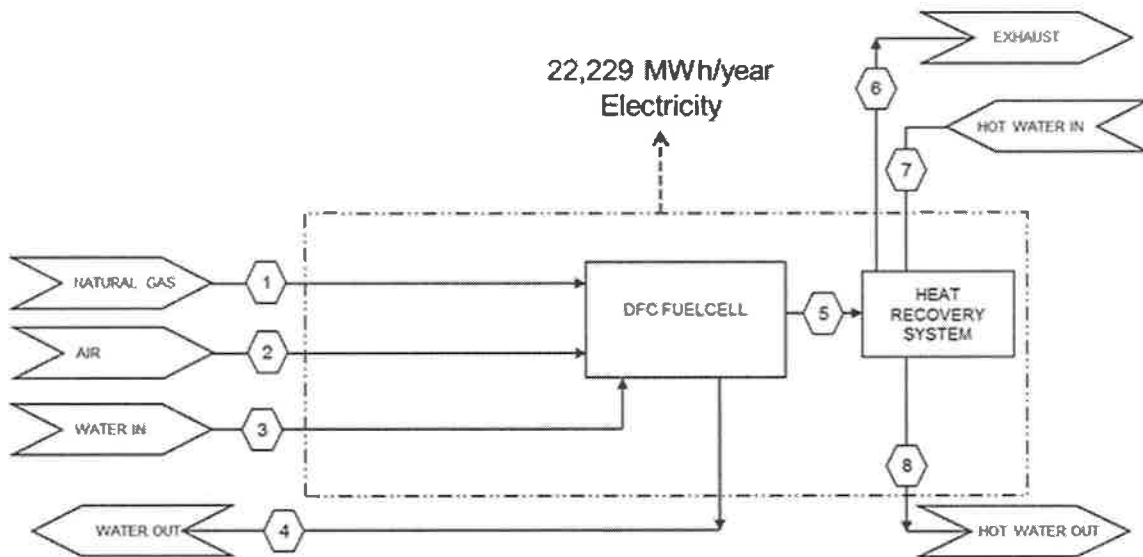
DFC3000[™] at the University California San Diego

An example of the electrical hookup is shown in the drawing below.



Heat Recovery:

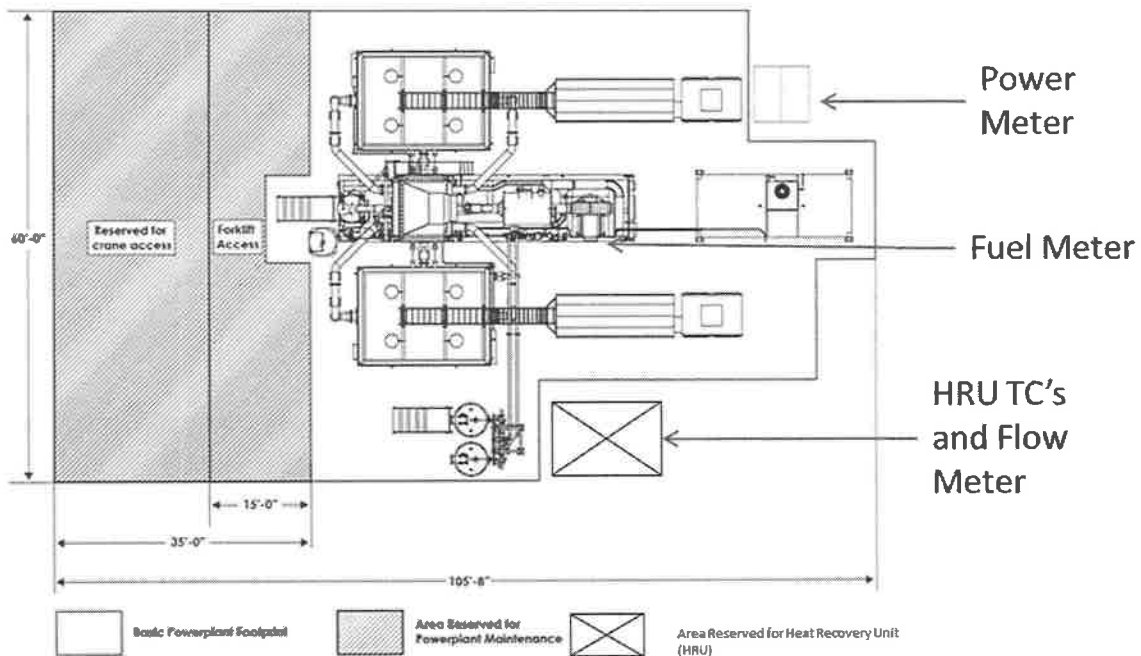
A mass and energy balance is shown in the table below. The DFC3000 will use 996 lb/h of natural gas to produce 2800kW of electricity. The Water Treatment System will intake 4,175lb/h water and approximately half of that will be rejected in the treatment processes. The plant exhaust, at 700°F and 36,600 lb/h, enters the Heat Recovery Unit (HRU). The Heat Recovery Unit will process 220,000 lb/h boiler return water from 160° to 180°F.



Stream #	1	2	3	4	5	6	7	8
Description	NATURAL GAS	AIR TO FUEL CELL	WATER TO FUEL CELL	WATER FROM FUEL CELL	EXHAUST FROM FUEL CELL	EXHAUST TO ATMOSPHERE	HOT WATER IN	HOT WATER OUT
Flow, lb/h	996	33,299	4,175	2,067	36,600	36,600	220,000	220,000
Enthalpy, Btu/lb	-1,939	-41	-8,828	-6,828	-629	-949	-6,743	-6,723
Pressure, psia	30	15	55-70	15-20	15	15	60	60
Temperature, F	60	59	75	75	700	250	160	180

Performance Validation:

A simplified layout of the DFC3000 is shown in the figure below along with delineations showing the approximate location of the power meter, the fuel meter and the thermocouples and flow meters associated with the heat recovery process. FCE's data acquisition system logs I/O points including: the power meter output to the Critical Customer Bus (CCB) which measures net power, the power meter measuring the Balance of Plant (BOP) internal loads and the power meter measuring grid loads. The fuel flow meter and the thermocouples in the fuel cell exhaust stream before and after the heat exchanger will be added to the data acquisition system.



The power plant will come equipped with a Red Lion to supply real time data on the plant performance. In addition, FuelCell Energy's EKHO system will be made available to review operational parameters.

Compliance with Codes and Standards

The DFC3000™ will be certified to the following standards:

Standard	Description
CSA-FC1	Standard for Fuel Cell Power Plants
UL 1741	Standard for Power Conversion Systems
CARB 07	California Air Resources Board Distributed Generation Certification Program

The DFC3000™ will comply with the following standards:

Standard	Description
IEEE 1547	Standard for Interconnecting Distributed Resources with Electric Power Systems
(NEC) NFPA 70	National Electrical Code
California Rule 21	California Grid Interconnection Standard
ASME	Piping and Vessel Codes (as applicable per process conditions)
OSHA 29 CFR Part 1910	General Industry Standards

Operating Environment

Site and ambient design conditions for the plant are listed in below. The “design conditions” data refer to the range of conditions that a standard plant can operate under. Host sites with ambient conditions falling outside these parameters may require modifications and/or additional equipment, and may result in reduced performance.

Site Design Requirements ⁽¹⁾	
CATEGORY	DESIGN CONDITIONS
Elevation above Sea Level	0 to 5000 ft
Ambient Temperature	-20 to 104°F
Relative Humidity	0 to 100 %
Direct Solar Radiation	310 Btu/ft ² (2)
Wind Loading @ 33 ft. above grade	41 psf ⁽³⁾
Snow Load, Pf	33 psf ⁽⁴⁾
Precipitation	2.5 inches/hour
Seismic	IBC2003 Occupancy Category III, Site Class D, S _S =2.5, S _I =1.3, I _E =1.25 I _P =1.0, F _A =1.0, F _V =1.5
Ambient Dust Loading, Avg./yr	27 micro-gram/m ³
Average Annual Airborne Gaseous Halide, Hypochlorite, or Halogen Concentration, Avg./yr	< 20 ppbv
Average Annual Airborne Gaseous Sulfur Dioxide Concentration in Air	< 10 ppbv

Notes:

1. Highway access is required. Rail siding is not required.
2. Normal to the sun's rays at 360° N latitude for an atmospheric clearness number of unity.
3. This wind load of 41 psf is based on a wind speed of less than 130 mph and Exposure C with I_w=1.15, K_z=0.98 K_t=1 and K_d=0.85. Exposure C is defined as “Open terrain with scattered obstructions having height generally less than 30 feet” (American Society of Civil Engineers standard ASCE 7-95).
4. This snow load is equivalent to a ground snow load of 40 psf with I_s=1.1 and a snow exposure factor of C_e=0.9 and C_t=1.2 per ASCE 7-02.

System Interconnections

The FCE model DFC3000™ fuel cell will connect to the following site interfaces:

- Fuel gas supply for natural gas
- Municipal quality potable water supply

- Waste water discharge
- Main power connection
- Telephone and data communication

Power Output Specifications

The power output characteristics of the FCE model DFC3000™ fuel cell power plant are listed in the table below.

Electrical Output Ratings for Standard Units	
Rated Powerplant Output	2800 kW, Net
Power Conversion Capacity	2800 kW, 3100 kVA Net
Standard Output Voltage	3-Phase 13.8 kV AC. Other voltages available by request.
Output current at Rated Power	131 Amps AC (per phase) at 13.8 kV standard (0.9 PF).
Output Current Maximum Fault	110% of maximum RMS Current
Short Circuit Current	110% of maximum RMS Current
Nominal Output Frequency	50 or 60 Hz
Output Frequency Range	± 0.5 Hz
Base Load Operating Range	0 - 100% of Rated Output
Reactive Capability at Full Load	0.9 Lag/Lead
Output Current Harmonics	<5% THD
Grid Protection	Per UL1741, see "Utility Interconnect Protection" section.
Maximum Grid Independent (CCB) Load	400 kW (or up to 2380 kW with load leveler option)
Maximum Grid Independent (CCB) Load Step	80 kW No limitation with load leveler option.
Power Quality	Complies with IEEE 519

Power and efficiency specifications are based on a new fuel cell module. Efficiency and power will reduce by approximately 10% over the module replacement period (5 years).

Grid Interconnection Protection

The FCE model DFC3000™ fuel cell will include all the required equipment to provide grid protection according to the standard UL1741 (grid parallel operation of distributed generation equipment).

The power converter includes protective relay functionality which will be compliant with UL/IEEE requirements for anti-islanding and grid interconnection protection. The protective relay functions and their ANSI Standard Device Number Descriptions are:

Protective Relay Functions	
ANSI Standard Device Number	Description
25	Sync check
27	Under voltage
59	Over voltage
50	Instantaneous overcurrent (line)
50 N/G	Instantaneous overcurrent (neutral ground)
51 V	AC timed overcurrent (line)
51 N/G	AC timed overcurrent (neutral ground)
81 O/U	Over/under frequency

Exhibit I

Insurance Requirements

Seller's Insurance. Seller shall procure at its own expense and maintain in full force and effect with responsible insurance carriers with a Best Insurance Reports rate of "A-" or better and a financial size category of "IX" or higher, the following insurance in at least the minimum amounts specified. Such insurance (a) shall be primary and not excess to or contributing with any insurance or self-insurance maintained by Buyer, and (b) shall provide for claims by one insured against another, such that, except for the limits of insurance, the insurance shall apply separately to each insured against whom a claim is made or suit is brought, subject to the policies' terms and conditions. In addition, Seller shall provide at least thirty (30) Days prior Notice to Buyer and its designees of any cancellation. Within ten (10) Days of the Effective Date, Seller shall deliver to Buyer certificates of insurance signed by Seller's insurance broker evidencing the insurance coverage required under this Exhibit I.

1. **Seller's Insurance Requirements.** The insurance to be maintained by Seller is as follows:

(a) Employer's Liability Insurance with total limit of at least five hundred thousand dollars (\$500,000) each accident for bodily injury by accident and five hundred thousand dollars (\$500,000) each employee for bodily injury by disease.

(b) Commercial General Liability (CGL) Insurance on an occurrence basis (occurrence form policy) against claims for personal injury (including bodily injury and death) and property damage. Such insurance shall provide coverage for products-completed operations, blanket contractual, explosion, collapse, and underground coverage, broad form property damage, personal injury insurance, hostile fire liability, with at least a one million dollar (\$1,000,000) limit per occurrence for combined bodily injury and property damage provided that policy aggregates, if any, shall apply separately to claims occurring with respect to the Work.

(c) Automobile Liability Insurance against claims for personal injury (including bodily injury and death) and property damage covering all owned, leased non-owned and hired motor vehicles, including loading and unloading, with at least a one million dollar (\$1,000,000) limit per occurrence for combined bodily injury and property damage and containing appropriate no-fault insurance provisions wherever applicable.

(d) Excess Liability Insurance on an occurrence basis covering claims in excess of the underlying insurance described in (a), (b), and (c) above, with a ten million dollar (\$10,000,000) limit per occurrence, provided that policy aggregates, if any, shall apply separately on a per project basis.

(e) Workers' Compensation Insurance as required by applicable state laws where the work is to be performed or as required by any other state or federal law where the employee performing the work is normally employed.

(f) Seller shall obtain Contractor's Pollution Liability Insurance with limits not less than three million dollars (\$3,000,000) each occurrence and three million dollars (\$3,000,000) in annual aggregate. Such insurance will cover sudden and gradual pollution losses arising from the work performed under this PPA.

Waiver of Subrogation. Seller shall waive, and shall cause the insurance required by this Exhibit I to be amended to waive, where allowed by laws and codes, rights of subrogation for loss or damage that may be covered under their insurance, and Seller hereby releases, and shall cause its subcontractors to release, Buyer and its respective affiliates, directors, officers, and employees for such loss or damage to the extent of recoveries from Seller's insurance.

2. **Buyer's Insurance.** Buyer shall procure at its own expense and maintain in full force and effect during the life of this Contract with responsible insurance carriers with a Best Insurance Reports rate of "A-" or better and a financial size category of "IX" or higher, the following insurance in the amounts specified. Buyer shall provide at least thirty (30) Days' Notice to Seller and its designees of any termination or cancellation. On or before the date of commencement of construction, Buyer shall deliver to Seller certificates of insurance signed by Buyer's insurance broker evidencing the insurance coverage required under this Exhibit I. The insurance to be maintained by Buyer is as follows:

(a) Employer's Liability Insurance with a five hundred thousand dollar (\$500,000) limit per accident.

(b) Commercial General Liability (CGL) Insurance on an occurrence basis (occurrence form policy) against claims for personal injury (including bodily injury and death) and property damage. Such insurance shall provide coverage for products-completed operations, blanket contractual, explosion, collapse, and underground coverage, broad form property damage, personal injury insurance, hostile fire liability, with at least a one million dollar (\$1,000,000) limit per occurrence for combined bodily injury and property damage provided that policy aggregates, if any, shall apply separately to claims occurring with respect to the Work.

(c) Automobile Liability Insurance against claims for personal injury (including bodily injury and death) and property damage covering all owned, leased non-owned and hired motor vehicles, including loading and unloading, with at least a one million dollar (\$1,000,000) limit per occurrence for combined bodily injury and property damage and containing appropriate no-fault insurance provisions wherever applicable.

(d) Excess Liability Insurance covering claims in excess of the underlying insurance described in (a), (b), and (c) above, with a ten million dollar (\$10,000,000) limit per occurrence.

(e) Workers' Compensation Insurance as required by applicable state laws where the work is to be performed or as required by any other state or federal law where the employee performing the work is normally employed..

Waiver of Subrogation. Buyer shall waive, and shall cause the insurance required by this Exhibit I to be amended to waive, where allowed by laws and codes, rights of subrogation for loss or damage that may be covered under their insurance, and Buyer hereby releases, and shall cause its subcontractors to release, Seller and its respective affiliates, directors, officers, and employees for such loss or damage to the extent of recoveries from Buyer's insurance.



This Commodity Master Agreement ("CMA") among Direct Energy Business, LLC, Direct Energy Business Marketing, LLC d/b/a Direct Energy Business, (collectively "Seller"), each a Delaware limited liability company, and _____ ("Buyer" or "Customer") (each a "Party" and collectively, the "Parties") is entered into and effective as of _____.

1. **Transactions:** The terms of this CMA apply to all end-use sales of electric power ("Electricity") and/or natural gas ("Gas") as applicable (each a "Commodity" and collectively, the "Commodities"), by the applicable Seller party to Buyer (each sale a "Transaction") which will be memorialized in a writing signed by both Parties (each a "Transaction Confirmation"). Each Transaction Confirmation shall set forth the Seller party providing service to Customer for such Transaction. If a conflict arises between the terms of this CMA and a Transaction Confirmation, the Transaction Confirmation will control with respect to that particular Transaction. This CMA, any amendments to this CMA and related Transaction Confirmation(s) (together, a single integrated, "Agreement") is the entire understanding between Parties with respect to the Commodities and supersedes all other communication and prior writings with respect thereto; no oral statements are effective.
2. **Performance:** The Parties' obligations under this Agreement are firm. Buyer is obligated to purchase and receive, and Seller is obligated to sell and provide, the Contract Quantity of Commodity specified in a Transaction Confirmation in accordance with the terms of this Agreement. Buyer will only use the Commodity at the listed Service Locations in the applicable Transaction Confirmation and will not resell the Commodity or use it at other locations without Seller's prior written consent.
3. **Purchase Price:** Buyer will pay the Purchase Price stated in each Transaction Confirmation. If the Purchase Price incorporates an index and the index is not announced or published on any day for any reason or if the Seller reasonably determines that a material change in the formula for or the method of determining the Purchase Price has occurred, then the Parties will use a commercially reasonable replacement price that is calculated by the Seller. If Seller concludes that a change in any Law(s) increases Seller's costs, the Purchase Price may be adjusted by Seller to reflect such costs. "Law(s)" mean all tariffs, laws, orders, rules, decisions, taxes, regulations, transmission rates, and Utility changes to Buyer's monthly capacity and/or transmission obligations.
4. **Billing and Payment:** Seller will invoice Buyer for the Actual Quantity of Commodity and for any other amounts incurred by Buyer under this Agreement. Payment is due within fifteen (15) days of the date of the invoice. If an invoice is issued and the Actual Quantity cannot be verified by the time, the invoice will be based on Seller's good faith estimate of the Actual Quantity. Seller will adjust Buyer's account following (i) confirmation of the Actual Quantity, (ii) any Utility discrepancy or adjustment or (iii) any other corrections or adjustments, including adjustments to, or re-calculation of, Taxes. Buyer will pay interest on late payments at 1.5% per month or, if lower, the maximum rate permitted by law ("Interest Rate"). Buyer is also responsible for all costs and fees, including reasonable attorney's fees, incurred in collecting payment. "Actual Quantity" means the actual quantity of Commodity that is either delivered or metered, as applicable, to Buyer's account. "Utility" means a state regulated entity engaged in the distribution of Gas or Electricity.
5. **Taxes:** Buyer is responsible for paying any Taxes associated with the Actual Quantity of Commodity sold under this Agreement that may become due at and after the Delivery Point. The Purchase Price does not include Taxes that are or may be the responsibility of the Buyer, unless such inclusion is required by Law. Buyer will reimburse Seller for any Taxes that Seller is required to collect and pay on Buyer's behalf and will indemnify, defend and hold Seller harmless from any liability against all Buyer's Taxes. Buyer will furnish Seller with any necessary documentation showing its exemption from Taxes, if applicable, and Buyer will be liable for any Taxes assessed against Seller because of Buyer's failure to timely provide or properly complete any such documentation. "Taxes" means all applicable federal, state and local taxes, including any associated penalties and interest and any new taxes imposed in the future during the term of this Agreement. Liabilities imposed in this Section will survive the termination of this Agreement.
6. **Disputes:** If either Party in good faith disputes amounts owed under Sections 3, 4, 5 and 8, the disputing Party will contact the non-disputing Party promptly and pay the undisputed amount by the payment due date. Any invoice dispute under this Agreement between Seller and Buyer shall, at the request of any Party, be referred to a senior representative of each of the Parties for resolution as promptly as practicable. In the event senior representatives are unable to resolve the dispute, the matter may be submitted to arbitration and mediation on such terms and conditions as the Parties may agree. In the event the Parties are unable to resolve such invoice dispute within twenty (20) Business Days of such referral or such other period as the Parties may agree, either Party may initiate litigation in a court of law with jurisdiction located in Sacramento, California. Following resolution of the dispute, any required payment shall be made within three (3) Business Days. In the event of a dispute other than for an invoiced amount, the Parties will use their best efforts to resolve the dispute promptly. Actions taken by a Party exercising its contractual rights will not be construed as a dispute for purposes of this Section. "Business Day" means any day on which banks are open for commercial business in New York, New York; any reference to "day(s)" means calendar days.
7. **Title and Risk of Loss:** Title to, possession of and risk of loss to the Commodity will pass to Buyer at the Delivery Point specified in the applicable Transaction Confirmation.
8. **Buyer's Usage Obligations**
 - A. **Material Usage Deviation:** If there is a Material Usage Deviation, Buyer will be responsible for the losses and costs, including the costs of obtaining and/or liquidating the applicable volume, based upon the difference between the applicable Contract Quantity and Actual Quantity. Buyer will pay the amount of such losses and costs to Seller within fifteen (15) Business Days of Seller's invoice. "Material Usage Deviation" means any deviation in Actual Quantity at the Service Location(s) stated in the related Transaction Confirmation from Contract Quantity (or, as applicable, estimated Contract Quantities) stated in that Transaction Confirmation of +/- 25% or more, which is not caused by weather.
 - B. **Balancing Charges:** For Transactions involving the purchase and sale of Gas only, Buyer will be responsible for Balancing Charges unless Prior Notice of a material variation in usage is provided to Seller and actual usage is consistent with that Prior Notice. "Balancing Charges" means Utility fees, costs or charges and penalties assessed for failure to satisfy the Utility's balancing and/or nomination requirements. "Prior Notice" is defined as forty-eight (48) hours before the start of the Gas Day for which the material variation in usage will apply. "Gas Day" means a period of 24 consecutive hours as defined by the Utility. Buyer will make any payment due pursuant to this Section within five (5) Business Days of the date of Seller's invoice.
 - C. **Curtailments:** For Transactions involving the purchase and Sale of Gas only, if Buyer is directed by its Utility to curtail its usage, in whole or in part, Buyer will curtail as directed. If Buyer fails to curtail as directed, Buyer will pay or reimburse Seller for all Balancing Charges assessed by the Utility. Payment by Buyer of any Balancing Charges will be due within five (5) Business Days of the date of Seller's invoice.
9. **Force Majeure:** A Party claiming Force Majeure will be excused from its obligations under Section 2 as long as it provides prompt notice of the Force Majeure and uses due diligence to remove its cause and resume performance as promptly as reasonably possible. During a Force Majeure, Buyer will not be excused from its responsibility for Balancing Charges nor from its responsibility to pay for Commodity received. "Force Majeure" means a material, unavoidable occurrence beyond a Party's control, and does not include inability to pay, an increase or decrease in Taxes or the cost of Commodity, the economic hardships of a Party, or the full or partial closure of Buyer's facilities, unless such closure itself is due to Force Majeure.
10. **Financial Responsibility:** Seller's entry into this Agreement and each Transaction is conditioned on Buyer, its parent, any guarantor or any successor maintaining its creditworthiness during the Delivery Period and any Renewal Term. When Seller has reasonable grounds for insecurity regarding Buyer's ability or willingness to perform all of its outstanding obligations under any agreement between the Parties, Seller may provide Buyer written notice that Buyer provide adequate assurance, which may include, in the Seller's reasonable discretion, security in the form of cash deposits, prepayments, letters of credit or other guaranty of payment or performance ("Credit Assurance"). On receipt of such notice, Buyer shall have five (5) Business Days to provide Credit Assurance to Seller. If Buyer fails to provide Credit Assurance within five (5) Business Days of receipt of notice, then Seller may terminate this Agreement pursuant to Section 11(ii).
11. **Default:** "Default" means: (i) failure of either Party to make payment by the applicable due date and the payment is not made within three (3) Business Days of a written demand; provided, however, that failure to make payment shall not include good faith payment disputes under Section 6;; (ii) failure of Buyer to provide Credit Assurance within five (5) Business Days of Seller's demand; (iii) either Party, its parent or guarantor, becomes Bankrupt or fails to pay its debts generally as they become due; or (iv) failure of either Party to satisfy any representations and warranties applicable to it contained in Section 13A or 13B and the failure is not cured within fifteen (15) Business Days of a written demand, provided that no cure period or demand for cure applies to a breach of Section 13A(c). "Bankrupt" means an entity (a) files a petition or otherwise commences, authorizes or acquiesces in the commencement of a proceeding or cause of action under any bankruptcy, insolvency, reorganization or similar law, or has any such petition filed or commenced against it, (b) makes an assignment or any general arrangement for the benefit of creditors, (c) otherwise becomes bankrupt or insolvent, however evidenced, (d) has a liquidator, administrator, receiver, trustee, conservator or similar official appointed with respect to it or any substantial portion of its property or assets, (e) has a secured party take possession of all or any substantial portion of its assets or (f) is dissolved or has a resolution passed for its winding-up, official management or liquidation (other than pursuant to a consolidation, amalgamation or merger).
12. **Remedies:** In the event of a Default, the non-defaulting Party may: (i) withhold any payments or suspend performance; (ii) upon written notice, provided that no notice is required with respect to Section 11(iii) or a breach of Section 13A(c), accelerate any or all amounts owing between the Parties and terminate any or all Transactions and/or this Agreement; (iii) calculate a

settlement amount by calculating all amounts due to Seller for Actual Quantity and the Close-out Value for each Transaction being terminated; and/or (iv) net or aggregate, as appropriate, all settlement amounts and all other amounts owing between the Parties and their affiliates under this Agreement and other energy-related agreements between them and their affiliates, whether or not then due and whether or not subject to any contingencies, plus costs incurred, into one single amount ("Net Settlement Amount"). Any Net Settlement Amount due from the defaulting Party to the non-defaulting Party will be paid within three (3) Business Days of written notice from the non-defaulting Party. Interest on any unpaid portion of the Net Settlement Amount will accrue daily at the Interest Rate. "Close-out Value" is the sum of (a) the amount due to the non-defaulting Party regarding the Contract Quantities (or, as applicable, estimated Contract Quantities) remaining to be delivered as stated in the applicable Transaction Confirmation(s) during the Delivery Period or, if applicable, the current Renewal Term, calculated by determining the difference between the Purchase Price and the Market Price for such quantities; and (b) without duplication, any net losses or costs incurred by the non-defaulting Party for terminating the Transaction(s), including costs of obtaining, maintaining and/or liquidating commercially reasonable hedges, Balancing Charges and/or transaction costs. "Market Price" means the price for similar quantities of Commodity at the Delivery Point during the Delivery Period or Renewal Term, as applicable. For purposes of determining Close-out Value, (i) Market Price will be determined by the non-defaulting Party in good faith as of a date and time as close as reasonably practical to the date and time of termination or liquidation of the applicable Transaction(s), and (ii) Market Price may be ascertained through reference to quotations provided by recognized energy brokers or dealers, market indices, bona-fide offers from third-parties, or by reference to commercially reasonable forward pricing valuations. The Parties agree that the Close-out Value constitutes a reasonable approximation of damages, and is not a penalty or punitive in any respect. Seller may, but need not, physically liquidate a Transaction or enter into a replacement transaction to determine Close-out Value or Net Settlement Amount. The defaulting Party is responsible for all costs and fees incurred for collection of Net Settlement Amount, including, reasonable attorney's fees and expert witness fees.

13. Representations and Warranties: Each of the following are deemed to be repeated each time a Transaction is entered into:

A. Each Party represents that: (a) it is duly organized, validly existing and in good standing under the laws of the jurisdiction of its formation and is qualified to conduct its business in those jurisdictions necessary to perform to this Agreement; (b) the execution of this Agreement is within its powers, has been duly authorized and does not violate any of the terms or conditions in its governing documents or any contract to which it is a party or any law applicable to it; and (c) it is not Bankrupt.

B. Buyer represents and warrants that: (a) it is not a residential customer; (b) it will immediately notify Seller of any change in its ownership; (c) execution of this Agreement initiates enrollment and service for the Delivery Period and any Renewal Term; (d) no communication, written or oral, received from the Seller will be deemed to be an assurance or guarantee as to any results expected from this Agreement; (e) if it is executing this Agreement in its capacity as an agent, such Party represents and warrants that it has the authority to bind the principal to all the provisions contained herein and agrees to provide documentation of such agency relationship, and (f) (i) it will provide, to Seller, information reasonably required to substantiate its usage requirements, including information regarding its business, locations, meter/account numbers, historical/projected usage, time of use, hours of operation, utility rate classes, agreements, schedules, which in substantial part form the basis for the calculation of charges for the transactions hereunder; (ii) acceptance of this Agreement constitutes an authorization for release of such usage information; (iii) it will assist Seller in taking all actions necessary to effectuate Transactions, including, if requested, executing an authorization form permitting Seller to obtain its usage information from third parties; and (iv) the usage information provided is true and accurate as of the date furnished and as of the effective date of the Agreement.

C. Each Party acknowledges that: (a) this Agreement is a forward contract and a master netting agreement as defined in the United States Bankruptcy Code ("Code"); (b) this Agreement shall not be construed as creating an association, trust, partnership, or joint venture in any way between the Parties, nor as creating any relationship between the Parties other than that of independent contractors for the sale and purchase of Commodity; (c) Seller is not a "utility" as defined in the Code; (d) Commodity supply will be provided by Seller under this Agreement, but delivery will be provided by the Buyer's Utility; and (e) Buyer's Utility, and not Seller, is responsible for responding to leaks or emergencies should they occur.

14. Other:

(a) This Agreement, and any dispute arising hereunder, is governed by the law of the state in which the Service Locations are located, without regard to any conflict of rules doctrine. (b) Each Party waives its right to a jury trial regarding any litigation arising from this Agreement. (c) No delay or failure by a Party to exercise any right or remedy to which it may become entitled under this Agreement will constitute a waiver of that right or remedy. (d) Seller warrants that (i) it has good title to Commodity delivered, (ii) it has the right to sell the Commodity, and (iii) the Commodity will be free from all royalties, liens, encumbrances, and claims. ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, ARE DISCLAIMED. (e) Buyer will be responsible for and indemnify Seller against all losses, costs and expenses, including court costs and reasonable attorney's fees, arising out of claims for personal injury, including death, or property damage from the Commodity or other charges which attach after title passes to Buyer. Seller will be responsible for and indemnify Buyer against any losses, costs and expenses, including court costs and reasonable attorneys' fees, arising out of claims of title, personal injury, including death, or property damage from the Commodity or other charges which attach before title passes to Buyer. (f) NEITHER PARTY WILL BE LIABLE TO THE OTHER UNDER THE AGREEMENT FOR CONSEQUENTIAL, INDIRECT OR PUNITIVE DAMAGES, LOST PROFITS OR SPECIFIC PERFORMANCE, EXCEPT AS EXPRESSLY PROVIDED IN THIS AGREEMENT. (g) All notices and waivers will be made in writing and may be delivered by hand delivery, first class mail (postage prepaid), overnight courier service or by facsimile and will be effective upon receipt; provided, however, that any termination notice may only be sent by hand or by overnight courier service, and, if sent to Seller, a copy delivered to: Direct Energy Business, Attn: Customer Services Manager, 1001 Liberty Avenue, Pittsburgh, PA 15222, Pittsburgh, PA 15222; Phone: (888) 925-9115; Fax: (866) 421-0257; Email: CustomerRelations@directenergy.com. (h) If Buyer and Direct Energy Business Marketing, LLC entered into Commodity transactions prior to the execution of this Agreement ("Existing Transactions"), the Parties agree that these Existing Transactions shall be Transactions governed under the terms of this Agreement. This Agreement supersedes and replaces any other agreement that may have applied to the Existing Transactions. Note that this subsection (h) shall not apply to any Commodity transactions or agreements entered into between Buyer and Direct Energy Business, LLC (i) No amendment to this Agreement will be enforceable unless reduced to writing and executed by both Parties. (j) Seller may assign this Agreement without Buyer's consent. Buyer may not assign this Agreement without Seller's consent, which consent will not be unreasonably withheld. In addition, Seller may pledge, encumber, or assign this Agreement or the accounts, revenues, or proceeds of this Agreement in connection with any financing or other financial arrangements without Buyer's consent; in which case Seller shall not be discharged from its obligations to Buyer under this Agreement. (k) This Agreement may be executed in separate counterparts by the Parties, including by facsimile, each of which when executed and delivered shall be an original, but all of which shall constitute one and the same instrument. (l) Any capitalized terms not defined in this CMA are defined in the Transaction Confirmation or shall have the meaning set forth in the applicable Utility rules, tariffs or other governmental regulations, or if such term is not defined therein then it shall have the well-known and generally accepted technical or trade meanings customarily attributed to it in the natural gas or electricity generation industries, as applicable. (m) The headings used in this Agreement are for convenience of reference only and are not to affect the construction of or to be taken into consideration in interpreting this Agreement. (n) Any executed copy of this Agreement and other related documents may be digitally copied, photocopied, or stored on computer tapes and disks ("Imaged Agreement"). The Imaged Agreement will be admissible in any judicial, arbitration, mediation or administrative proceedings between the Parties in accordance with the applicable rules of evidence; provided that neither Party will object to the admissibility of the Imaged Agreement on the basis that such were not originated or maintained in documentary form. (o) Where multiple parties are Party to this Agreement with Seller and are represented by the same agent, it is agreed that this Agreement will constitute a separate agreement with each such Party, as if each such Party had executed a separate Agreement, and that no such Party shall have any liability under this document for the obligations of any other Parties. (p) This CMA may be terminated by either Party upon at least thirty (30) days' prior written notice; provided, however, that this CMA will remain in effect with respect to Transactions entered into prior to the effective date of the termination until both Parties have fulfilled all of their obligations with respect to the outstanding Transactions. (q) Buyer will not disclose the terms of this Agreement, without prior written consent of the Seller, to any third party, other than Buyer's employees, affiliates, agents, auditors and counsel who are bound by substantially similar confidentiality obligations, trading exchanges, governmental authorities, courts, adjudicatory proceedings, pricing indices, and credit ratings agencies; provided that if Buyer receives a demand for disclosure pursuant to court order or other proceeding, it will first notify Seller, to the extent practicable, before making the disclosure.

IN WITNESS WHEREOF, this CMA is entered into and effective as of the date written above.

BUYER: _____

SELLER: Direct Energy Business, LLC
Direct Energy Business Marketing, LLC

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

COMMODITY MASTER AGREEMENT

This Commodity Master Agreement ("CMA") among Direct Energy Business, LLC, Direct Energy Business Marketing, LLC d/b/a Direct Energy Business, (collectively "Seller"), each a Delaware limited liability company, and City of Tulare ("Buyer" or "Customer") (each a "Party" and collectively, the "Parties") is entered into and effective as of October 25, 2016.

- 1. Transactions:** The terms of this CMA apply to all end-use sales of electric power ("Electricity") and/or natural gas ("Gas") as applicable (each a "Commodity" and collectively, the "Commodities"), by the applicable Seller party to Buyer (each sale a "Transaction") which will be memorialized in a writing signed by both Parties (each a "Transaction Confirmation"). Each Transaction Confirmation shall set forth the Seller party providing service to Customer for such Transaction. If a conflict arises between the terms of this CMA and a Transaction Confirmation, the Transaction Confirmation will control with respect to that particular Transaction. This CMA, any amendments to this CMA and related Transaction Confirmation(s) (together, a single integrated, "Agreement") is the entire understanding between Parties with respect to the Commodities and supersedes all other communication and prior writings with respect thereto; no oral statements are effective.
- 2. Performance:** The Parties' obligations under this Agreement are firm. Buyer is obligated to purchase and receive, and Seller is obligated to sell and provide, the Contract Quantity of Commodity specified in a Transaction Confirmation in accordance with the terms of this Agreement. Buyer will only use the Commodity at the listed Service Locations in the applicable Transaction Confirmation and will not resell the Commodity or use it at other locations without Seller's prior written consent.
- 3. Purchase Price:** Buyer will pay the Purchase Price stated in each Transaction Confirmation. If the Purchase Price incorporates an index and the index is not announced or published on any day for any reason or if the Seller reasonably determines that a material change in the formula for or the method of determining the Purchase Price has occurred, then the Parties will use a commercially reasonable replacement price that is calculated by the Seller. If Seller concludes that a change in any Law(s) increases Seller's costs, the Purchase Price may be adjusted by Seller to reflect such costs. "Law(s)" mean all tariffs, laws, orders, rules, decisions, taxes, regulations, transmission rates, and Utility changes to Buyer's monthly capacity and/or transmission obligations.
- 4. Billing and Payment:** Seller will invoice Buyer for the Actual Quantity of Commodity and for any other amounts incurred by Buyer under this Agreement. Payment is due within fifteen (15) days of the date of the invoice. If an invoice is issued and the Actual Quantity cannot be verified by the time, the invoice will be based on Seller's good faith estimate of the Actual Quantity. Seller will adjust Buyer's account following (i) confirmation of the Actual Quantity, (ii) any Utility discrepancy or adjustment or (iii) any other corrections or adjustments, including adjustments to, or recalculation of, Taxes. Buyer will pay interest on late payments at 1.5% per month or, if lower, the maximum rate permitted by law ("Interest Rate"). Buyer is also responsible for all costs and fees, including reasonable attorney's fees, incurred in collecting payment. "Actual Quantity" means the actual quantity of Commodity that is either delivered or metered, as applicable, to Buyer's account. "Utility" means a state regulated entity engaged in the distribution of Gas or Electricity.
- 5. Taxes:** Buyer is responsible for paying any Taxes associated with the Actual Quantity of Commodity sold under this Agreement that may become due at and after the Delivery Point. The Purchase Price does not include Taxes that are or may be the responsibility of the Buyer, unless such inclusion is required by Law. Buyer will reimburse Seller for any Taxes that Seller is required to collect and pay on Buyer's behalf and will indemnify, defend and hold Seller harmless from any liability against all Buyer's Taxes. Buyer will furnish Seller with any necessary documentation showing its exemption from Taxes, if applicable, and Buyer will be liable for any Taxes assessed against Seller because of Buyer's failure to timely provide or properly complete any such documentation. "Taxes" means all applicable federal, state and local taxes, including any associated penalties and interest and any new taxes imposed in the future during the term of this Agreement. Liabilities imposed in this Section will survive the termination of this Agreement.
- 6. Disputes:** If either Party in good faith disputes amounts owed under Sections 3, 4, 5 and 8, the disputing Party will contact the non-disputing Party promptly and pay the undisputed amount by the payment due date. The Parties will negotiate in good faith regarding such dispute for a period of not more than fifteen (15) Business Days. In the event the Parties are unable to resolve such dispute, the disputing Party will pay the balance of the original invoice and either Party may exercise any remedy available to it in law or equity pursuant to this Agreement. In the event of a dispute other than for an invoiced amount, the Parties will use their best efforts to resolve the dispute promptly. Actions taken by a Party exercising its contractual rights will not be construed as a dispute for purposes of this Section. "Business Day" means any day on which banks are open for commercial business in New York, New York; any reference to "day(s)" means calendar days.
- 7. Title and Risk of Loss:** Title to, possession of and risk of loss to the Commodity will pass to Buyer at the Delivery Point specified in the applicable Transaction Confirmation.
- 8. Buyer's Usage Obligations**
 - A. Material Usage Deviation:** If there is a Material Usage Deviation, Buyer will be responsible for the losses and costs, including the costs of obtaining and/or liquidating the applicable volume, based upon the difference between the applicable Contract Quantity and Actual Quantity. Buyer will pay the amount of such losses and costs to Seller within fifteen (15) Business Days of Seller's invoice. "Material Usage Deviation" means any deviation in Actual Quantity at the Service Location(s) stated in the related Transaction Confirmation from Contract Quantity (or, as applicable, estimated Contract Quantities) stated in that Transaction Confirmation of +/- 25% or more, which is not caused by weather.
 - B. Balancing Charges:** For Transactions involving the purchase and sale of Gas only, Buyer will be responsible for Balancing Charges unless Prior Notice of a material variation in usage is provided to Seller and actual usage is consistent with that Prior Notice. "Balancing Charges" means Utility fees, costs or charges and penalties assessed for failure to satisfy the Utility's balancing and/or nomination requirements. "Prior Notice" is defined as forty-eight (48) hours before the start of the Gas Day for which the material variation in usage will apply. "Gas Day" means a period of 24 consecutive hours as defined by the Utility. Buyer will make any payment due pursuant to this Section within five (5) Business Days of the date of Seller's invoice.
 - C. Curtailments:** For Transactions involving the purchase and Sale of Gas only, if Buyer is directed by its Utility to curtail its usage, in whole or in part, Buyer will curtail as directed. If Buyer fails to curtail as directed, Buyer will pay or reimburse Seller for all Balancing Charges assessed by the Utility. Payment by Buyer of any Balancing Charges will be due within five (5) Business Days of the date of Seller's invoice.
- 9. Force Majeure:** A Party claiming Force Majeure will be excused from its obligations under Section 2 as long as it provides prompt notice of the Force Majeure and uses due diligence to remove its cause and resume performance as promptly as reasonably possible. During a Force Majeure, Buyer will not be excused from its responsibility for Balancing Charges nor from its responsibility to pay for Commodity received. "Force Majeure" means a material, unavoidable occurrence beyond a Party's control, and does not include inability to pay, an increase or decrease in Taxes or the cost of Commodity, the economic hardships of a Party, or the full or partial closure of Buyer's facilities, unless such closure itself is due to Force Majeure.
- 10. Financial Responsibility:** Seller's entry into this Agreement and each Transaction is conditioned on Buyer, its parent, any guarantor or any successor maintaining its creditworthiness during the Delivery Period and any Renewal Term. When Seller has reasonable grounds for insecurity regarding Buyer's ability or willingness to perform all of its outstanding obligations under any agreement between the Parties, Seller may require Buyer to provide adequate assurance, which may include, in the Seller's discretion, security in the form of cash deposits, prepayments, letters of credit or other guaranty of payment or performance ("Credit Assurance").
- 11. Default:** "Default" means: (i) failure of either Party to make payment by the applicable due date and the payment is not made within three (3) Business Days of a written demand; (ii) failure of Buyer to provide Credit Assurance within two (2) Business Days of Seller's demand; (iii) either Party, its parent or guarantor, becomes Bankrupt or fails to pay its debts generally as they become due; or (iv) failure of either Party to satisfy any representations and warranties applicable to it contained in Section 13A or 13B and the failure is not cured within fifteen (15) Business Days of a

written demand, provided that no cure period or demand for cure applies to a breach of Section 13A(c). "Bankrupt" means an entity (a) files a petition or otherwise commences, authorizes or acquiesces in the commencement of a proceeding or cause of action under any bankruptcy, insolvency, reorganization or similar law, or has any such petition filed or commenced against it, (b) makes an assignment or any general arrangement for the benefit of creditors, (c) otherwise becomes bankrupt or insolvent, however evidenced, (d) has a liquidator, administrator, receiver, trustee, conservator or similar official appointed with respect to it or any substantial portion of its property or assets, (e) has a secured party take possession of all or any substantial portion of its assets or (f) is dissolved or has a resolution passed for its winding-up, official management or liquidation (other than pursuant to a consolidation, amalgamation or merger).

12. Remedies: In the event of a Default, the non-defaulting Party may: (i) withhold any payments or suspend performance; (ii) upon written notice, provided that no notice is required with respect to Section 11(iii) or a breach of Section 13A(c), accelerate any or all amounts owing between the Parties and terminate any or all Transactions and/or this Agreement; (iii) calculate a settlement amount by calculating all amounts due to Seller for Actual Quantity and the Close-out Value for each Transaction being terminated; and/or (iv) net or aggregate, as appropriate, all settlement amounts and all other amounts owing between the Parties and their affiliates under this Agreement and other energy-related agreements between them and their affiliates, whether or not then due and whether or not subject to any contingencies, plus costs incurred, into one single amount ("Net Settlement Amount"). Any Net Settlement Amount due from the defaulting Party to the non-defaulting Party will be paid within three (3) Business Days of written notice from the non-defaulting Party. Interest on any unpaid portion of the Net Settlement Amount will accrue daily at the Interest Rate. "Close-out Value" is the sum of (a) the amount due to the non-defaulting Party regarding the Contract Quantities (or, as applicable, estimated Contract Quantities) remaining to be delivered as stated in the applicable Transaction Confirmation(s) during the Delivery Period or, if applicable, the current Renewal Term, calculated by determining the difference between the Purchase Price and the Market Price for such quantities; and (b) without duplication, any net losses or costs incurred by the non-defaulting Party for terminating the Transaction(s), including costs of obtaining, maintaining and/or liquidating commercially reasonable hedges, Balancing Charges and/or transaction costs. "Market Price" means the price for similar quantities of Commodity at the Delivery Point during the Delivery Period or Renewal Term, as applicable. For purposes of determining Close-out Value, (i) Market Price will be determined by the non-defaulting Party in good faith as of a date and time as close as reasonably practical to the date and time of termination or liquidation of the applicable Transaction(s), and (ii) Market Price may be ascertained through reference to quotations provided by recognized energy brokers or dealers, market indices, bona-fide offers from third-parties, or by reference to commercially reasonable forward pricing valuations. The Parties agree that the Close-out Value constitutes a reasonable approximation of damages, and is not a penalty or punitive in any respect. Seller may, but need not, physically liquidate a Transaction or enter into a replacement transaction to determine Close-out Value or Net Settlement Amount. The defaulting Party is responsible for all costs and fees incurred for collection of Net Settlement Amount, including, reasonable attorney's fees and expert witness fees.

13. Representations and Warranties: Each of the following are deemed to be repeated each time a Transaction is entered into:

A. Each Party represents that: (a) it is duly organized, validly existing and in good standing under the laws of the jurisdiction of its formation and is qualified to conduct its business in those jurisdictions necessary to perform to this Agreement; (b) the execution of this Agreement is within its powers, has been duly authorized and does not violate any of the terms or conditions in its governing documents or any contract to which it is a party or any law applicable to it; and (c) it is not Bankrupt.

B. Buyer represents and warrants that: (a) it is not a residential customer; (b) it will immediately notify Seller of any change in its ownership; (c) execution of this Agreement initiates enrollment and service for the Delivery Period and any Renewal Term; (d) no communication, written or oral, received from the Seller will be deemed to be an assurance or guarantee as to any results expected from this Agreement; (e) if it is executing this Agreement in its capacity as an agent, such Party represents and warrants that it has the authority to bind the principal to all the provisions contained herein and agrees to provide documentation of such agency relationship, and (f) (i) it will provide, to Seller, information reasonably required to substantiate its usage requirements, including information regarding its business, locations, meter/account numbers, historical/projected usage, time of use, hours of operation, utility rate classes, agreements, schedules, which in substantial part form the basis for the calculation of charges for the transactions hereunder; (ii) acceptance of this Agreement constitutes an authorization for release of such usage information; (iii) it will assist Seller in taking all actions necessary to effectuate Transactions, including, if requested, executing an authorization form permitting Seller to obtain its usage information from third parties; and (iv) the usage information provided is true and accurate as of the date furnished and as of the effective date of the Agreement.

C. Each Party acknowledges that: (a) this Agreement is a forward contract and a master netting agreement as defined in the United States Bankruptcy Code ("Code"); (b) this Agreement shall not be construed as creating an association, trust, partnership, or joint venture in any way between the Parties, nor as creating any relationship between the Parties other than that of independent contractors for the sale and purchase of Commodity; (c) Seller is not a "utility" as defined in the Code; (d) Commodity supply will be provided by Seller under this Agreement, but delivery will be provided by the Buyer's Utility; and (e) Buyer's Utility, and not Seller, is responsible for responding to leaks or emergencies should they occur.

14. Other:

(a) This Agreement, and any dispute arising hereunder, is governed by the law of the state in which the Service Locations are located, without regard to any conflict of rules doctrine. (b) Each Party waives its right to a jury trial regarding any litigation arising from this Agreement. (c) No delay or failure by a Party to exercise any right or remedy to which it may become entitled under this Agreement will constitute a waiver of that right or remedy. (d) Seller warrants that (i) it has good title to Commodity delivered, (ii) it has the right to sell the Commodity, and (iii) the Commodity will be free from all royalties, liens, encumbrances, and claims. ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, ARE DISCLAIMED. (e) Buyer will be responsible for and indemnify Seller against all losses, costs and expenses, including court costs and reasonable attorney's fees, arising out of claims for personal injury, including death, or property damage from the Commodity or other charges which attach after title passes to Buyer. Seller will be responsible for and indemnify Buyer against any losses, costs and expenses, including court costs and reasonable attorneys' fees, arising out of claims of title, personal injury, including death, or property damage from the Commodity or other charges which attach before title passes to Buyer. (f) NEITHER PARTY WILL BE LIABLE TO THE OTHER UNDER THE AGREEMENT FOR CONSEQUENTIAL, INDIRECT OR PUNITIVE DAMAGES, LOST PROFITS OR SPECIFIC PERFORMANCE, EXCEPT AS EXPRESSLY PROVIDED IN THIS AGREEMENT. (g) All notices and waivers will be made in writing and may be delivered by hand delivery, first class mail (postage prepaid), overnight courier service or by facsimile and will be effective upon receipt; provided, however, that any termination notice may only be sent by hand or by overnight courier service, and, if sent to Seller, a copy delivered to: Direct Energy Business, Attn: Customer Services Manager, 1001 Liberty Avenue, Pittsburgh, PA 15222, Pittsburgh, PA 15222; Phone: (888) 925-9115; Fax: (866) 421-0257; Email: CustomerRelations@directenergy.com. (h) If Buyer and Direct Energy Business Marketing, LLC entered into Commodity transactions prior to the execution of this Agreement ("Existing Transactions"), the Parties agree that these Existing Transactions shall be Transactions governed under the terms of this Agreement. This Agreement supersedes and replaces any other agreement that may have applied to the Existing Transactions. Note that this subsection (h) shall not apply to any Commodity transactions or agreements entered into between Buyer and Direct Energy Business, LLC (i) No amendment to this Agreement will be enforceable unless reduced to writing and executed by both Parties. (j) Seller may assign this Agreement without Buyer's consent. Buyer may not assign this Agreement without Seller's consent; which consent will not be unreasonably withheld. In addition, Seller may pledge, encumber, or assign this Agreement or the accounts, revenues, or proceeds of this Agreement in connection with any financing or other financial arrangements without Buyer's consent; in which case Seller shall not be discharged from its obligations to Buyer under this Agreement. (k) This Agreement may be executed in separate counterparts by the Parties, including by facsimile, each of which when executed and delivered shall be an original, but all of which shall constitute one and the same instrument. (l) Any capitalized terms not defined in this CMA are defined in the Transaction Confirmation or shall have the meaning set forth in

the applicable Utility rules, tariffs or other governmental regulations, or if such term is not defined therein then it shall have the well-known and generally accepted technical or trade meanings customarily attributed to it in the natural gas or electricity generation industries, as applicable. (m) The headings used in this Agreement are for convenience of reference only and are not to affect the construction of or to be taken into consideration in interpreting this Agreement. (n) Any executed copy of this Agreement and other related documents may be digitally copied, photocopied, or stored on computer tapes and disks ("Imaged Agreement"). The Imaged Agreement will be admissible in any judicial, arbitration, mediation or administrative proceedings between the Parties in accordance with the applicable rules of evidence; provided that neither Party will object to the admissibility of the Imaged Agreement on the basis that such were not originated or maintained in documentary form. (o) Where multiple parties are Party to this Agreement with Seller and are represented by the same agent, it is agreed that this Agreement will constitute a separate agreement with each such Party, as if each such Party had executed a separate Agreement, and that no such Party shall have any liability under this document for the obligations of any other Parties. (p) This CMA may be terminated by either Party upon at least thirty (30) days' prior written notice; provided, however, that this CMA will remain in effect with respect to Transactions entered into prior to the effective date of the termination until both Parties have fulfilled all of their obligations with respect to the outstanding Transactions. (q) Buyer will not disclose the terms of this Agreement, without prior written consent of the Seller, to any third party, other than Buyer's employees, affiliates, agents, auditors and counsel who are bound by substantially similar confidentiality obligations, trading exchanges, governmental authorities, courts, adjudicatory proceedings, pricing indices, and credit ratings agencies; provided that if Buyer receives a demand for disclosure pursuant to court order or other proceeding, it will first notify Seller, to the extent practicable, before making the disclosure.

IN WITNESS WHEREOF, this CMA is entered into and effective as of the date written above.

BUYER:	SELLER:
City of Tulare	Direct Energy Business, LLC Direct Energy Business Marketing, LLC
By:	By:
Printed:	Printed:
Title:	Title:
Date:	Date:

Date: October 25, 2016

DIRECT ENERGY BUSINESS, LLC
1001 Liberty Avenue
Pittsburgh, PA 15222

Phone: 1-888-925-9115

www.directenergy.com

CUSTOMER INFORMATION

Customer Name: City of Tulare

Contact Name:	Billing Contact: Joseph Carlini
Address: 3981 S. K Street Tulare, CA 93274	Billing Address: 3981 S. K Street Tulare, CA 93274
Telephone:	Telephone: (559) 684-4318
Fax:	Fax:
Email:	

GAS TRANSACTION CONFIRMATION – CALIFORNIA VARIABLE PURCHASE PRICE with SWING

This Transaction Confirmation confirms the terms of the Gas Transaction entered into between Direct Energy Business, LLC ("Seller"), and the customer above ("Buyer" or "Customer") pursuant to the terms of the Commodity Master Agreement between Customer and Seller and/or Seller's affiliate Direct Energy Business Marketing, LLC, d/b/a Direct Energy Business dated October 25, 2016, as may be amended. If the referenced Commodity Master Agreement is between Customer and Direct Energy Business Marketing, LLC, d/b/a Direct Energy Business, Customer and Seller agree that this Transaction Confirmation shall be governed by and incorporate the terms of such Commodity Master Agreement. Exhibit A for the Purchase Price described below is attached to, and is made a part of, this Transaction Confirmation.

The Purchase Price excludes Utility distribution charges and Taxes that are or may be the responsibility of Customer. Gas volumes will be adjusted for Utility line loss, where applicable. Customer's execution and submission of Exhibit A to Seller shall constitute an offer to Customer to Seller to purchase the Commodity on the terms set forth in the Commodity Master Agreement. This Transaction Confirmation and Exhibit A shall become effective only upon (i) execution by Customer of Exhibit A, Transaction Confirmation, and Commodity Master Agreement; and (ii) the earlier of execution of the Commodity Master Agreement and this Transaction Confirmation by Seller or written confirmation by Seller of its acceptance of the Transaction Confirmation to Customer.

Delivery Period:	Term (# of months): 109 Service start date: 10/01/2017 The service start date hereunder will be the date that the Utility enrolls Customer for Seller's service. Seller will request the Utility to enroll Customer on the first meter read date within the Delivery Period. Seller shall not be liable for any lost savings or lost opportunity as a result of a delay in service commencement due to actions or inactions of the Utility. Upon the expiration of the Delivery Period, this Transaction shall continue for successive one month terms (collectively the "Renewal Term") until either Party notifies the other Party in writing of its intention to terminate, at least 15 days prior to the end of the Delivery Period or 15 days prior to the end of each successive month Renewal Term. The termination date shall be the next effective drop date permitted by the Utility. All terms of the Agreement will remain in effect through the termination date as set by the applicable Utility. During the Renewal Term, the Purchase Price for each successive month Renewal Term will be the then market-based price for similar quantities of Commodity at the Delivery Point, including all Taxes, costs, charges or fees which are set forth herein, unless otherwise agreed to in writing by the Parties.
Delivery Point:	The Delivery Point is the citygate or burnertip (as agreed to by the Parties and as specified on Exhibit A) for the applicable LDC for each Customer Service Location, as specified on Exhibit A.
Contract Quantity:	Customer and Seller agree that the Contract Quantity purchased and received means a positive volume up to or greater than the estimated quantities listed on Exhibit A, provided, that for purposes of determining whether a Material Usage Deviation has occurred and for purposes of calculating Contract Quantities remaining to be delivered under Section 12 of the Agreement, Contract Quantity shall be determined by reference to the historical monthly usage for such Service Locations.
Tax Exemption Status:	[<input type="checkbox"/>] Non-Exempt [<input type="checkbox"/>] Exempt If exempt, must attach certificate.
	The Purchase Price (on a per Unit of Measure basis) for Gas service provided hereunder (unless otherwise stated herein) is (i)

the last day settlement price for natural gas on the New York Mercantile Exchange (NYMEX) or the Natural Gas Intelligence ("NGI") under Bidweek Survey, California, Average for the Applicable California Citygate, for the corresponding month as set forth in Exhibit A, plus (ii) a Retail Adder (per Unit of Measure) as set forth in Exhibit A, subject to applicable charges or credits for usage deviations outside of the CQ Tolerance as further provided below. Pricing may be at the citygate or burnertip, as agreed by the Parties and as specified on Exhibit A, as applicable. Notwithstanding the CQ Tolerance and for full requirements contracts only (as reflected by Customer's election in Exhibit A hereof), the Purchase Price will apply to all of Customer's Actual Usage, except if there is a Material Deviation in usage. For all contracts that are not for full requirements, the following shall apply:

Deficient Volume Pricing. Deficient Volumes within the CQ Tolerance shall be credited at the variable price applicable to the corresponding Settlement Adder and Delivery Zone, as described in Exhibit A.

Excess Volume Pricing. Excess Volumes within the CQ Tolerance shall be charged at the variable price applicable to the corresponding Settlement Adder and Delivery Zone, as described in Exhibit A.

Conversion. Except as may otherwise be agreed by the Parties, the following terms and conditions shall apply to any conversions made under this Transaction Confirmation. Customer may request from time to time prior to or during the Delivery Period a conversion of account(s) to a fixed price. After Customer sends notification of such to Seller, Seller shall reply to Customer with a proposed Exhibit B that includes proposed pricing, volumes, and delivery periods. Customer's submittal of a signed copy of an Exhibit B to Seller will be an offer to Seller. Seller has the sole discretion on the decision to accept such offer(s) and no conversion of volumes to a fixed price will be effective without such. Seller's acceptance will be communicated in writing to the Customer.

Purchase Price:

Pricing Methodology in Event of Conversion. During any period in which there are one or more conversions in effect, the Purchase Price for Actual Usage during such period shall be calculated as follows (such calculation to be reflected as a volume weighted average in cases where there are multiple conversions simultaneously in effect):

- the applicable fixed price shall apply to the converted portion of the Contract Quantity (both as specified in Exhibit B);
- the variable price, as stated above, shall apply to any unconverted portion of the Contract Quantity;
- the Conversion Weighted Average shall apply to all of Actual Usage within the CQ Tolerance;
- Excess Volume Pricing and Deficient Volume Pricing, as described above, shall apply to any Actual Usage outside the CQ Tolerance notwithstanding any conversion to a fixed price.

PGE Core Transportation Agreement ("CTA") Pass-Through

If Buyer elects the PGE CTA Pass-Through option, this election will be set out on Exhibit A. The Purchase Price specified on Exhibit A will be exclusive of this cost component. The CTA, as calculated by Seller, will appear on Buyer's invoice as a secondary line item. CTA is the cost, including reservation and fuel charges, incurred by the Seller due to the assignment from PG&E of transportation and storage held by PG&E for its core customers.

Backbone Transportation Service ("BTS") Pass-Through

If buyer elects the BTS Pass-Through option, this election will be set out on Exhibit A. The Purchase Price specified on Exhibit A will be exclusive of this cost component. The BTS, as calculated by Seller, will appear on Buyer's invoice as a secondary line item. BTS is transportation to the Delivery Point, the cost of which is calculated using the Market Price at the Southern California Border settlement point plus any applicable fuel charges.

Bill type: Utility Billing (PGE only) or Dual Billing

"Actual Usage" means the actual amount of natural gas consumed by Customer at a Service Location, calculated by account.

"Applicable California Citygate" or "Delivery Zone" is as set forth in Exhibit A. For purposes of this Transaction Confirmation, the Applicable California Citygate or Delivery Zone may be any of the following (i) PG&E; (ii) SoCal, or; (iii) SDG&E (Southern California Citygate).

"BT Pricing" refers to a delivery point at the business meter which means that Utility line losses will either be captured in the sales price or as a line item on the customer invoice. The location of the CQ's (Contract Quantity) is also determined by this methodology.

"CTA" means a core transport agent that is eligible to sell natural gas to core end use customers in accordance with applicable LDC tariffs approved by the CPUC.

"CG Pricing" refers to a delivery point at the CityGate or beginning of the Utility's pipelines and does not contain Utility line losses as a cost component. The location of the CQ's (Contract Quantity) is also determined by this methodology.

"Contract Quantities or CQs" are the natural gas quantities set forth in Exhibit A.

"Conversion Weighted Average" is the Purchase Price for Customer's Actual Usage after a conversion, in compliance with the above provisions, is complete. It may be expressed in invoices as a single weighted average price based on all converted and, if applicable, non-converted volumes within the CQ Tolerance.

"CQ Tolerance" means the applicable agreed percentage limit above and below the Contract Quantities for each LDC Account Number, as specified in Exhibit A. \

"Daily Contract Quantity" is determined by dividing the monthly Contract Quantity described in Exhibit A by the number of calendar days in the applicable month.

Definitions:

"Daily Settlement Type" means volumes outside the CQ tolerance shall be billed to or credited to the Customer, at a market reflected rate based on the daily price index as published in NGI's Daily Gas Price Index under section "California" and contained within column "range" for the Applicable California Citygate for all days of the applicable month, plus any Settlement Adder listed on Exhibit A.

"Deficient Volume" means, in any month where Actual Usage is less than the Contract Quantity, the difference between Actual Usage and the applicable monthly Contract Quantity. If Customer elects the daily Settlement Type in Exhibit A, the "Deficient Volume" will be calculated based on the difference between the Actual Daily Usage and the applicable Daily Contract Quantity.

"ESP" means an energy service provide that is eligible to sell natural gas to core end-use customer in accordance with applicable LDC tariffs approved by the CPUC.

"Excess Volume" means Actual Usage volumes in excess of the applicable monthly Contract Quantity. If Customer elects the daily Settlement Type in Exhibit A, the "Excess Volume" will be calculated based on the difference between the daily Actual Usage and the applicable Daily Contract Quantity.

"Monthly Settlement Type" means volumes outside the CQ tolerance shall be billed to or credited to the Customer at a monthly price calculated using the simple average of the daily index price as published in NGI's Daily Gas Price Index under section "California" and contained within column "range" for the Applicable California Citygate for all days of the applicable month, plus any Settlement Adder listed on Exhibit A.

"Provider" means an energy service company, including but not limited to a CTA or an ESP, that is eligible to sell natural gas to end use customers using a Utility's transmission or distribution systems.

"Settlement Adder" is charged per UOM and is as described in Exhibit A.

Special Provisions:

1. Change in Utility Account Numbers:

The account number for a Service Location shall be the Utility Account Number set forth in the Service Locations attached in Exhibit A, or any replacement account number issued by the Utility from time to time.

2. Third Party Charges:

Customer acknowledges that any costs assessed by the Utility or any third party as a result of Customer's switch to or from Seller, including but not limited to switching costs, are not included in the Purchase Price and shall be the responsibility of the Customer.

3. Seller's appointment as limited agent and Provider:

With respect to each Transaction, Customer agrees to obtain all of its natural gas requirements for all Service Locations set forth on Exhibit A exclusively from Seller during the applicable Delivery Period. Customer hereby appoints Seller as its exclusive limited agent and authorizes Seller to act as its Provider for the Service Locations during the Delivery Period. Customer agrees to execute such documents and cooperate with Seller as necessary to evidence the appointment of Seller as its limited agent and Provider and in the performance of its obligations hereunder. Customer agrees to take the appropriate metered distribution service from the applicable Utility and comply with such Utility's tariff.

4. Remedies:

Section 12 "Remedies" (ii) is modified to read as follows: "except to the extent specifically limited or prohibited by applicable laws or regulations with respect to core service, as defined in the applicable Utility's tariff, upon written notice, provided that no notice is required with respect to Section 11 (iii) or a breach of Section 13A(c), accelerate any or all amounts owing between the Parties and terminate any or all Transactions and/or this Agreement;".

The remaining Special Provisions apply to "Customer Accounts for core serve" (as defined in the applicable Utility's tariff) only:

5. Additional Warranties:

In addition, Seller warrants that it is a qualified, approved CTA and ESP that is eligible to sell natural gas to "core customers" or to Customers receiving core service within the terms of the applicable Utility's tariffs and CPUC rules under the core aggregation program. Customer represents and warrants as follows: (1) all Accounts being served under this Agreement are for core service, as defined within the applicable Utility tariff, (2) Customer has been informed of and consents to all terms and conditions of the applicable Utility's core transportation service, (3) Customer intends to receive gas procurement and related services from Seller, (4) Customer has authorized Seller to act on Customer's behalf in gas procurement activities and (5) Customer has authorized the applicable Utility to release Customer's current and historic gas consumption information to Seller. Each party covenants that it shall cause its respective representations and warranties to remain true and correct throughout the Term of this Agreement.

6. Right of Rescission:

Customer may cancel this Agreement as it applies to their non-residential core service, only until midnight of the third business day after the day on which Customer signed this Agreement. Customer will provide written notice of such at the address provided in the Notice section herein. Notice of cancellation is effective when deposited in the mail properly addressed with postage prepaid.

**EXHIBIT A
(California - Variable Price with Full Requirements - GAS)**

Customer Name: City of Tulare

Identify CQ Tolerance: +/- 0 % _ (No Swing) ; +/- 10% _ (Swing); X N/A (Unlimited)

Unit of Measure: X Dth _ Therms

Settlement Adder: Excess 0 (\$/Dth) Deficient 0 (\$/Dth)

Identify Settlement Type: ___ Daily; X Monthly

Identify Pass-Through Option: ___ PGE Core Transportation; ___ Backbone Transportation Service; ___ None

Account Information

Utility Account Number	Utility	Service Location Address	Billing Address	Delivery Zone (Pipeline)	Utility Tariff
88888888888888	Southern California Gas Co	3981 S. K Street , Tulare, CA 93274	3981 S. K Street , Tulare, CA 93274	SOC	NONCORE

Price and Contract Quantities

Utility Account Number	Product Elected	Retail Adder (\$/Unit of Measure)	Citygate (CG) or bumertip (BT) based	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Annual
88888888888888	Index +	\$0.2000 / DTH	CG	15,283	13,804	15,283	14,790	15,283	14,790	15,283	15,283	14,790	15,283	14,790	15,283	180,438
Total				15,283	13,804	15,283	14,790	15,283	14,790	15,283	15,283	14,790	15,283	14,790	15,283	180,438

CUSTOMER: City of Tulare	Direct Energy Business, LLC:
By:	By:

EXHIBIT A
(California - Variable Price with Full Requirements - GAS)

Printed:	Printed:
Title:	Title:
Date:	Date:

**CITY OF TULARE, CALIFORNIA
BOARD OF PUBLIC UTILITIES COMMISSIONERS
AGENDA ITEM TRANSMITTAL SHEET**

Submitting Department: Public Works - Water

For Board Meeting of: November 15, 2018

Documents Attached: Ordinance Resolution Other None

AGENDA ITEM:

Accept the Water System Program update.

IS PUBLIC HEARING REQUIRED: Yes No

BACKGROUND/EXPLANATION:

At the February 18, 2016 Board of Public Utilities meeting, staff presented an item to the Board requesting that the Board accept Carollo's Technical Memorandum No. 1 on the Matheny Soutlz Water System Improvements, provide feedback on the Water System Development Program, and appropriate funding for the Water System Development Program feasibility development. Carollo's Technical Memorandum No. 1 was a result of the City's concerns regarding the state of the water system and the City's ability to connect Matheny Tract (Pratt Mutual Water Company) and Soultz Mutual Water Company to the City's system. Carollo evaluated the City's water system and identified the projects needed to provide sufficient capacity to the existing system and to provide sufficient capacity for future water delivery needs. Using the Carollo study as a basis for future water system improvement projects, the Board accepted the study and created a project for the Water System Development Program.

At the June 16, 2016 Board of Public Utilities meeting, the Board asked for a tracking of the milestones and updates on the Water System Development Program. Since that time, staff has been providing monthly updates to the Board regarding the program. The update identifies the three major parts of the program: Water Storage, Water Wells, and the State SRF Grant for a new water well and water main extension project. As the status report is updated each month, the updated items are highlighted to make the changes easily identifiable to the Board. Attached are the anticipated milestones and updates for the project to date.

Updates to the projects are as follows: Construction of the storage tanks and new well at the J Street and Alpine sites is on-going. The tanks at the J Street and Alpine sites have been filled with water and passed leak tests. Site work at both sites has begun. The installation and integration of SCAD at the Well 45 (I Street) with Cannon is ongoing.

Construction of the 1.5 million gallon water storage tank at Cartmill and Mooney is ongoing. The concrete slab for the tank is complete and construction of the walls and interior columns is ongoing. Anthony J. Prieto Water Well Drilling has completed construction and development of the water well at Cartmill and Mooney. A Notice of Completion for the project is expected in early December 2018.

The State grant project including a new well at K Street and Bardsley Avenue and a pipeline between Matheny Tract and Well 14 is moving forward. The State continues its review of documents requested and provided by the City. Kenneth D. Schmidt & Associates has prepared draft technical specifications for the well drilling and development design. These technical specifications are being incorporated into a City standard Request for Bids (RFB) before being submitted to the State. Cannon has submitted 30% complete design plans and is moving forward to 60% design. Staff plans on submitting the plans and specifications to the State once complete (expected early 2019). The State has indicated they will execute a funding agreement once the plans and specification are submitted, reviewed, and approved.

A Suitability and Sale Agreement has been executed with the property owner for a potential well site located at the southeast corner of the intersection of Cartmill Avenue and J Street and a separate Suitability and Sales Agreement has been executed with the property owner of the KCOK site which is located on the north side of Seminole Avenue east of Mooney Boulevard. With the Agreements in place, tests wells are scheduled to be constructed in early 2019 at both sites.

STAFF RECOMMENDATION:

Accept the Water System Program update.

CITY ATTORNEY REVIEW/COMMENTS: Yes N/A

IS ADDITIONAL (NON-BUDGETED) FUNDING REQUIRED: Yes No N/A

FUNDING SOURCE/ACCOUNT NUMBER:

Submitted by: James L. Funk

Title: Project Manager

Date: November 15, 2018

City Manager Approval: _____

**Water System Development Program
November 15, 2018**

Water Storage Tanks - Sites Identified:

Site 1: 1258 N. J Street

Site 2: SE corner of Alpine Avenue & Nelder Grove.

Design/Construction timeline:

2016

June 28, 2016 CEQA for city projects published. 20 day review period
July 12, 2016 RFP's for design of storage tanks published
August 4, 2016 Responses to RFP due
August 18, 2016 Award RFP at BPU meeting
October 20, 2016 BPU approved design of two, 2.0 million gallon concrete storage tanks

2017

January 9, 2017 Planning Commission approved design review for J Street storage tank site.
(amended CEQA due to change in size of tanks from 1.0 to 2.0 million gallons)
February 13, 2017 Planning Commission approved design review of Alpine storage tank site.
May 2017 Plans and Specifications completed
August 2, 2017 Advertise for bid for storage tanks and wells (J Street & Alpine). Bid due 9/7 and will
award on 9/21.
October 5, 2017 Award RFB 18-626 for the Water Storage Tanks and Wells project.
November 3, 2017 Groundbreaking for Water Storage Tank and Well project.
November 9, 2017 Pre-construction meeting for the storage tanks and well projects.

2018

April 5, 2018 Award of design for the Cartmill/Mooney storage tank and well project to Carollo.
May 3, 2018 BPU approved purchase of property at Cartmill/Mooney for tank and well site.
June 21, 2018 BPU authorizes change order to Myers for construction of tank at Cartmill and Mooney
June 21, 2018 BPU authorizes contract with Anthony J. Prieto Water Will Drilling for construction of well at
cartmill and Mooney
July 30, 2018 Construction of Tank at Cartmill and Mooney began
January 2019 Anticipated completion of J Street and Alpine storage tanks and well project.

Water Wells - Sites identified:

Site 1: Board approved suitability agreement for 333 South I Street (Well 6).

Site 2: 1258 N. J Street

Site 3: SE corner of Alpine Avenue & Nelder Grove. Provided update to BPU on 2/2/17

Site 4: Cartmill Avenue between De La Vina Street & Mooney Blvd.

Site 5: Cartmill and J Street - meeting with property owner started in June 2018

**Site 6: KCOK site (Siminole and Mooney Blvd) - meeting with property owner started in
August 2018**

Design/Construction timeline:

2016

June 28, 2016 CEQA for city projects published. 20 day review period
July 12, 2016 Staff working with on-call Engineer to write specs for design-build wells
August 2016 RFB for test wells published
October 2016 RFP for design of water wells and hydrogeologists published
October 20, 2016 Award RFB for test wells, design of water wells and hydrogeologist consulting services
Award well design to Cannon for 333 S. I Street

November 3, 2016	Award well design to Carollo Engineers for 1258 N. J Street
November 4, 2016	Held pre-construction meeting for test wells
November 14, 2016	Begin construction of test well #1 at 333 S. I Street. Estimated time frame - 6 weeks
November 2016	Begin construction of two wells. Work to include: test wells & sampling, design of well construction, construction of the well(s), installation of pump & appurtenances
December 15, 2016	Award well design to Carollo Engineers for Alpine & Nelder Grove site
December 23, 2016	Completed test well #1 at 333 S. I Street. Awaiting lab results for final design
2017	
January 3, 2017	Begin construction of test well #2 at 1258 N. J Street. Estimated time frame - 6 weeks
January 19, 2017	Present BPU with information regarding proposed Cartmill well site
February 1, 2017	Completed test well #2 at 1258 N. J Street. Awaiting lab results for final design
February 7, 2017	RFB for drilling of permanent well at 333 S. I Street published. Anticipate to award in March
March 16, 2017	Award RFB for construction of well at 333 S. I Street
March 16, 2017	Begin construction of test well #4 at Cartmill/Mooney. Estimated time frame - 6 weeks
March 21, 2017	RFB for drilling of permanent well at 1258 N. J Street published. Anticipate to award in May.
April 7, 2017	Completed test well #4 at Cartmill/Mooney. Awaiting lab results for final design
April 14, 2017	Begin construction of test well #5 at Alpine/Nelder Grove. Estimated time frame -6 wks
April 17, 2017	Begin construction of well at 333 S. I Street
May 4, 2017	Award RFB for construction of well at 1258 N. J Street. Anticipate construction to begin in May 2017
May 4, 2017	Award well design to Cannon for Cartmill & Mooney site
May 5, 2017	Completed test well #5 at Alpine/Nelder Grove. Awaiting lab results for final design
May 30, 2017	Anticipating to begin construction of well at 1258 N. J Street
June 4, 2017	Award RFB for up to five test wells to Johnson Drilling.
August 1, 2017	Advertise for bids for New Well #45 (I Street). Bids due 9/7 and will award 9/21
October 5, 2017	Award RFB 18-625 for New Well #45 Equipping Project.
November 3, 2017	Held pre-construction for new well #45.
November 2017	Begin construction of well
2018	
April 5, 2018	Award of design for the Cartmill/Mooney storage tank and well project to Carollo.
May 3, 2018	BPU approved purchase of property at Cartmill/Mooney for tank and well site.
June 6, 2018	Meeting with Lane Engineers to discuss potential well site at J St and Cartmill (Albers)
June 20, 2018	Substantial completion of new well #45
June 21, 2018	BPU awarded contract to A.J. Prieto for drilling/developing well at Cartmill and Mooney
July 2018	Anticipate putting new well #45 on-line
October 9, 2018	Notice of Completion for Well #45 authorized by BPU
October 9, 2018	Suitability and Sale Agreement executed for Cartmill and J St well site
November 2018	Anticipate full execution of Suitability and Sale Agreement for KCOK sites

State Grant - Matheny/Pratt MWC Consolidation - Sites identified:

July 21, 2016	Well Site 1: Closed session - real property negotiations for 2508 W. Tulare. Property negotiations cancelled - Looking for new well site. Well 14: 12" pipe north to Matheny Tract
October 6, 2016	Well Site 1: approval to purchase 820 Wright Way
June 2017	Well Site 2: City owned property at SW corner of Bardsley & K Street

Design/Construction timeline:

2016

August 2016 Application for funding submitted to State
 December 2016 All grant paperwork submitted and tentatively approved by the State, just waiting on CEQA required Cultural Report from consultant.

2017

February 2017 Still working through cultural report. Anticipate final environmental by March.
 February 15, 2017 Begin construction of test well #3 at 820 Wright Way. Estimated time frame - 6 weeks
 March 2017 Completed test well #3 at 820 Wright Way. Final lab results determined the site the site is not suitable for a well (arsenic, TCP)
 April 2017 Staff is looking for a new well site. Environmental documents on hold until a new well site is identified.
 June 2017 Staff has identified the City owned lot at the SW corner of Bardsley & K Street as a potential well site. The test well will be started by the end of June and should take three weeks for drilling and an additional three weeks for lab results to come back.
 July 2017 Complete application for funding (General, Technical, Environmental, & Financial)
 August 3, 2017 Begin construction of test well at Bardsley & K Street. Estimated time frame - 6 weeks
 September 2017 Complete construction of test well. Awaiting sample results.

2018

June 5, 2018 Draft TMF submitted
 July 11, 2018 Updated costs estimate for design, construction and construction support provided to the State (\$2.948M)
 July 19, 2018 BPU will be requested to approve the design contract with Cannon for equipping the new well and pipeline. Ken Schmidt with design drilling and development of well.
 August 2018 Work orders issued to Cannon and Kenneth Schmidt & Associates for design services

September 2018 Well construction design submitted for incorporation into City Standard RFB

November 2018 Well equipping and pipeline design continues (30% plans submitted)

2019**Tentative Schedule:**

February 2019 Anticipate finalizing grant agreement with the State
 February 2019 Plans and Specifications completed
 March 2019 Construction documents out to bid
 May 2019 Begin construction of well site and pipeline
 December 2019 Construction of pipeline complete
 December 2019 Construction well site complete

**CITY OF TULARE, CALIFORNIA
BOARD OF PUBLIC UTILITIES COMMISSIONERS
AGENDA ITEM TRANSMITTAL SHEET**

Submitting Department: Public Works

For Board Meeting of: November 15, 2018

Documents Attached: Ordinance Resolution Other None

AGENDA ITEM:

Receive the Public Works performance reports for October 2018.

IS PUBLIC HEARING REQUIRED: Yes No

BACKGROUND/EXPLANATION:

Public Works first reported performance dashboards for each of its divisions to the Board of Public Utilities in August 2015 with the intention of inviting additional transparency into the maintenance and operations activities of each of the divisions.

Solid Waste

Overall, the fleet availability decreased from 79% in September to 74% in October, below the 80% target. The Residential, Roll-Off, and Sweeper divisions met and exceeded their availability targets while the Commercial division fell short, achieving only 64% availability for the month.

In the Commercial division, unit 5568 was out the entire month for welding repair to the fuel tank. Unit 5561 was down due to a broken tailgate cylinder and PTO pump.

In the Residential division, unit 5580 was down the entire month due to required repairs discovered during a preventative maintenance inspection. Unit 598 was also identified as needing repairs during an inspection. Unit 582 was down because the grabber arms were not operating and for camera repairs and inspection. Even with these units down for a percentage of the month, the division stayed above target availability.

Availability is measured in 'Route Days' – the total number of days in the month a vehicle is available to service a route divided by the total number of days with routes that require service.

Water

Water delivery volumes are delayed by one month due to the availability of billing data. In September 2018, water delivery, or water "sold," decreased by 60.9 million gallons (-12.2%) as compared to September 2017. Potable water production increased by 38.7 million gallons (+7.2%) in September 2018 as compared to September 2017.

Conservation

In September, the gross gallons per capita increased from 281 last year to 301 gallons per capita per day this year (+7.1%). This is a measurement of water use efficiency throughout the city as a whole across all customers. The Residential gallons per capita use increased from 162 gpd last year to 168 gpd this year (+3.8%). The Residential gallons per capita looks specifically at residential water use only. Total water waste tickets in October were 320, a decrease of 43 tickets from 363 total tickets in October 2017.

Collections

In October, the Waste Water Collections division cleaned more than 15,000 feet of sewer main lines. The Preventative Maintenance cleaning of the sewer main lines accounted for 13% (92 man hours) of this month's man hours. Corrective Maintenance activities were 13% (93.5 man hours). Approximately 20% of staff's time (138 man hours) was spent engaged in administrative tasks related to operating the division.

Waste Water Treatment Plant

In October, the monthly BOD sample average decreased from 19.25 mg/L in September to 14.50 mg/L. The monthly sample average of 18.78 mg/L for TSS had slightly increased from 17.4 mg/L in September. The monthly sample average for Ammonia increased from 1.87 mg/L in August to 4.82 mg/L while the sample average for Nitrogen increased from 1.48 mg/L to 3.14 mg/L. The BOD, TSS, Ammonia, and Nitrogen monthly sample averages are all within compliance.

Operationally, the WWTP completed 19 corrective work orders and 303 preventative maintenance work orders. Only 6% of work orders were completed to address an immediate and unplanned problem. The remaining 94% of work orders were for planned and preventative maintenance. Overall, 201 of the work orders were completed for the Domestic side of the facility and 121 for the Industrial side, 38% and 62% respectively. The gross total monthly influent and effluent volumes for both the Domestic and Industrial facilities increased (+7.5 MG) when compared to September with a total of 357.9 MG for October.

Air Permit

The WWTP maintains 14 total air permits throughout the facility and operations and currently all 14 are in compliance.

Consultant Projects

In response to the Board's direction on June 1, 2017 to include project updates related to the 10 Year Energy Plan on the Department Dashboard, staff has added the '*Consultant Projects*' category. This will include monthly progress reports on any approved and ongoing consulting projects.

10 Year Energy Plan Project

On October 1, 2018, Hydros submitted their September invoicing in the total amount of \$11,765.50. The amount invoiced for identifying BVF flows and removal of the solids layer in the BVF related to the Process Engineering Study is \$1,351.25 (11.5%). The amount invoiced for the Second Contract Amendment is \$5,041.25 (43%). The total amount invoiced on the Second Contract Amendment is \$58,088.30 (68%). The amount invoiced for the Solar project

was \$2,248.75 (10%). The total amount invoiced for the Solar project is \$10,385.20 (44%). The amount invoiced for the specifications for the dewatering and dryer facility is \$2,487.50.

The Natural Gas fuel cell is currently fully commissioned. See separate Energy Dashboard for further detail.

The Biogas Fuel Cell is currently on- track.

Below is a brief summary of the project activities invoiced for period 9/1/2018 through 9/30/2018:

Process Engineering

- Requests for information on flowrates, TSS, biogas production and observations
 - 1.5
- Review of material provided and analysis
 - 4.0 hours
- Formulation of Draft response/questions
 - 3.25

Second Contract Amendment

- Negotiation of heat loop amendment – Review of draft and comments to FCE; follow-up in writing. Phone review of redraft
 - 7.25 hours
- Project issues – heat loop, scheduling, routing and construction standards for electrical overhead line to Rinker circuit; update City staff. Follow-up on City approval of Right of Way, analysis of FCE engineering docs. Clarification of APN and So Cal Gas' need for documentation
 - 5 hours
- Review of construction schedule and ongoing reporting protocols for project. 3 weekly phone meetings and review confirmation of FCE report particulars. Consult with FCE on staffing, schedule, permit issues. Reviewed and provided initial weekly progress reports to City
 - 8.5 hours
- Follow-up on assignment of new officer level contact for the City; identification and description of current issues
 - 9.5 hours
- Follow-up on the FCE drafted escrow instructions
 - 3.0 hours
- Site visit and meeting with FCE project managers. Site walk and review of conditions.
 - 1.5 hours

Solar PV Project Owners Representative

- Conversations with Borrego Project Manager and Customer Relations lead, weekly update conversations with Borrego staff

- 5.25 hours
- Review of lease and PPA amendment docs provided by Borrego
 - 2 hours
- Discussion with Borrego on the additional contract for inspection and known needed renovations of the existing system before re-commissioning. Scoping issues
 - 3.25 hours
- Phone meeting with SCE interconnection staff and email to DPW on results. Follow-up
 - 3.75 hours
- Discussion with Borrego on amendment to PPA and related docs
 - 1.0 hours

Specifications for Dewatering and Dryer Facility

- Preparation of basis of design and exhibits
 - 3.0 hours
- Preparation of verbal and written requests for information needed to complete the basis of design and related research
 - 6.75 hours
- Site meeting with James Stickler and review of siting and availability of electrical connections
 - 2.5 hours
- Analysis of new data on effluent
 - 2.75 hours
- Preparation of request for opinion by City Attorney
 - 1.5 hours

Solid Waste Rate Study - Implementation

On May 1, 2018, the City Council ratified the new solid waste rates approved by the BPU at the Proposition 218 hearing held on April 19, 2018. These rates became effective July 1, 2018. Now that the proposed rates have been adopted, the next step is to implement the remaining recommendations made by R3 Consulting. These steps include the following:

- The Customer Service position was filled effective August 20, and all driver positions have been filled except for one operator position. Aside from filling the operator positions, there is a vacant senior maintenance position as well.
- An RFP for a Technological Needs Analysis study is under review by Staff.
- A revised Solid Waste budget is being developed to reflect the approved changes related to the Solid Waste Study recommendations.

STAFF RECOMMENDATION:

Receive the Public Works performance reports for October 2018.

CITY ATTORNEY REVIEW/COMMENTS: Yes N/A

IS ADDITIONAL (NON-BUDGETED) FUNDING REQUIRED: Yes No N/A

FUNDING SOURCE/ACCOUNT NUMBER:

Signed: Trisha Whitfield

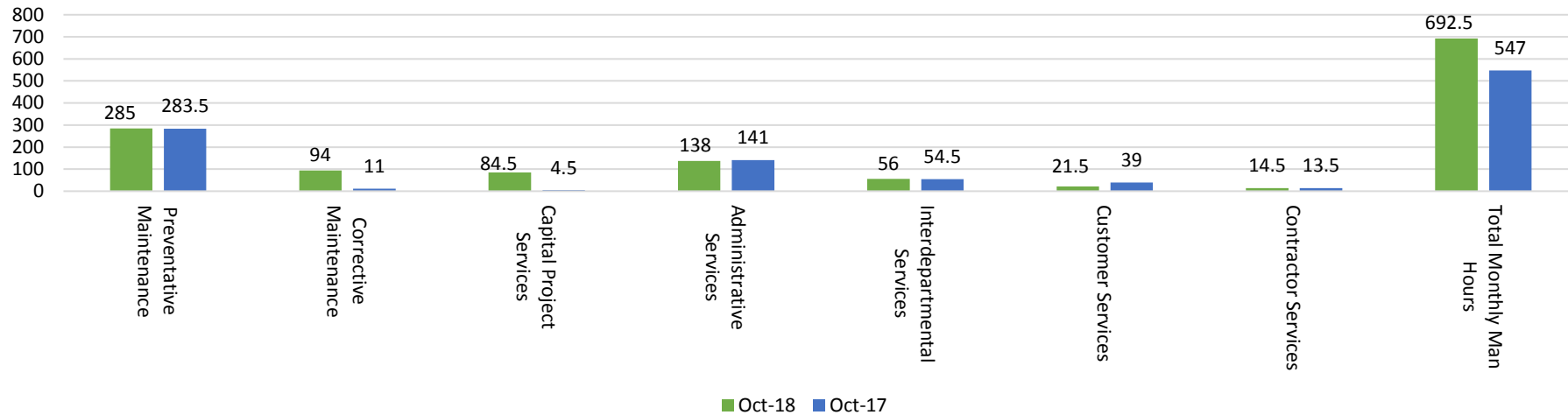
Date: November 7, 2018

Title: Public Works Director

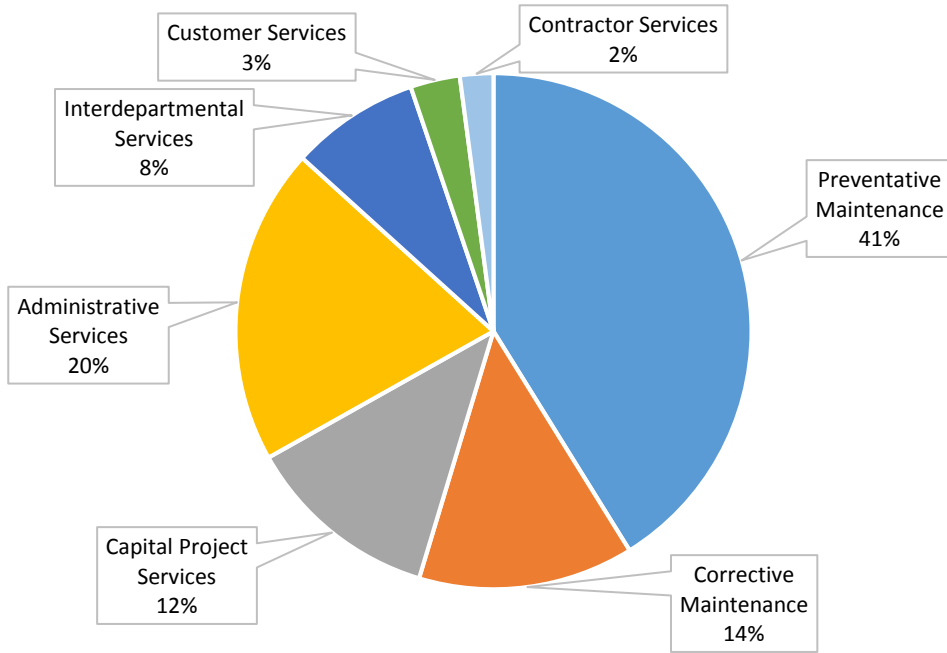
City Manager Approval: _____

**Sewer Collections Division
October 2018 Dashboard**

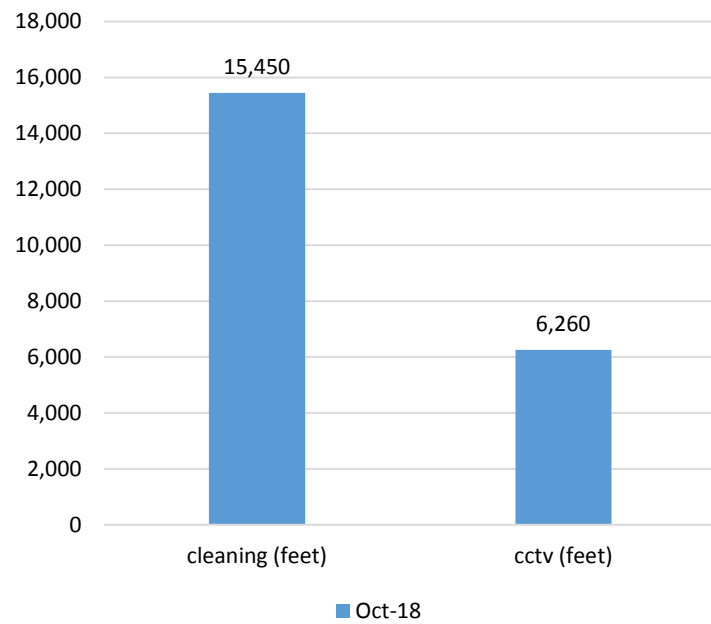
Man Hours



Man Hour Distribution

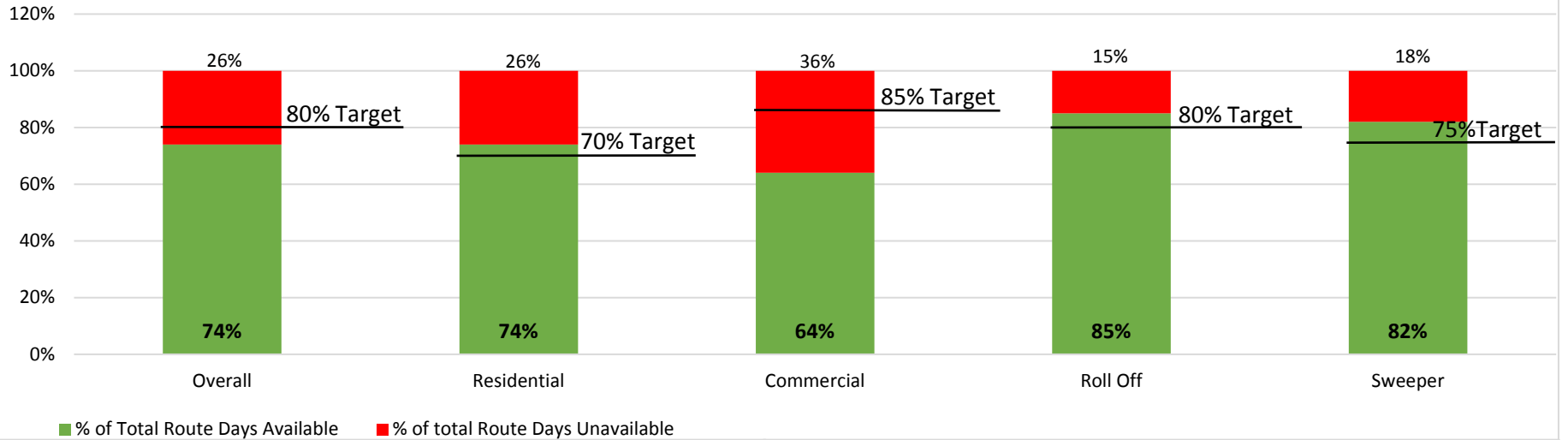


Linear Maintenance Footage

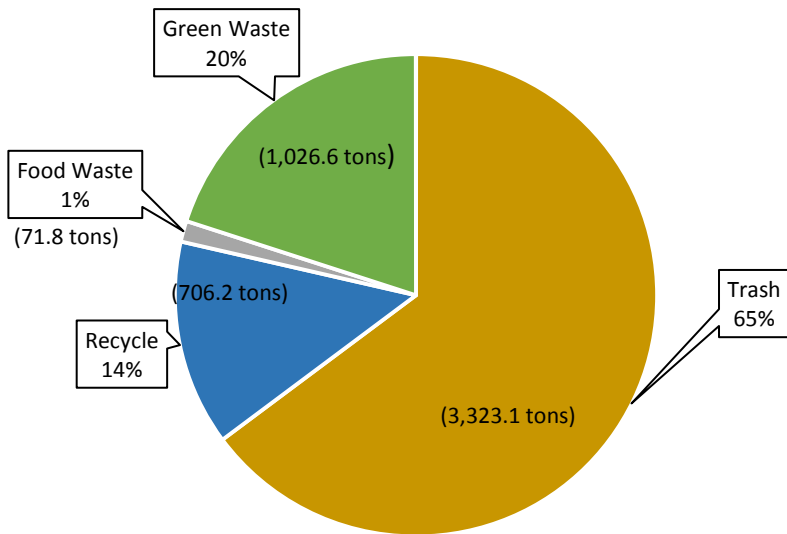


**City of Tulare Solid Waste Dashboard
October 2018**

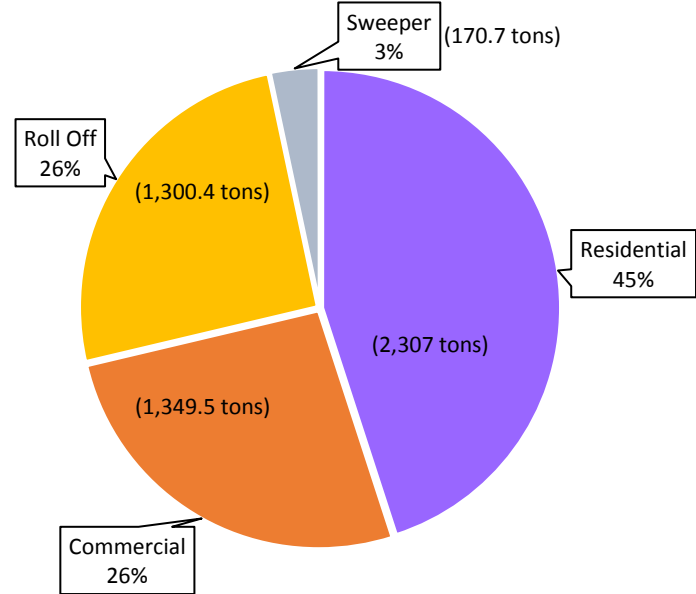
Route Day Availability



Tonnage by Type

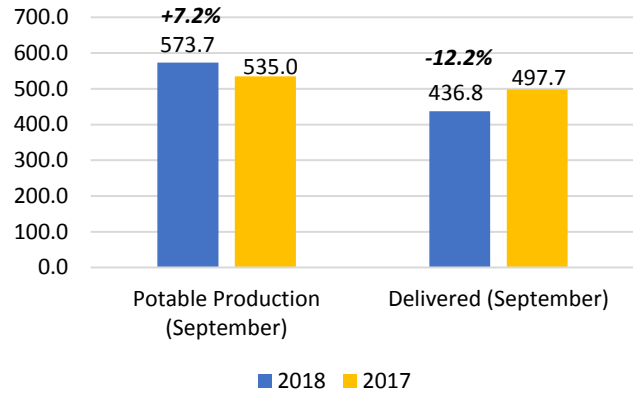


Tonnage by Division

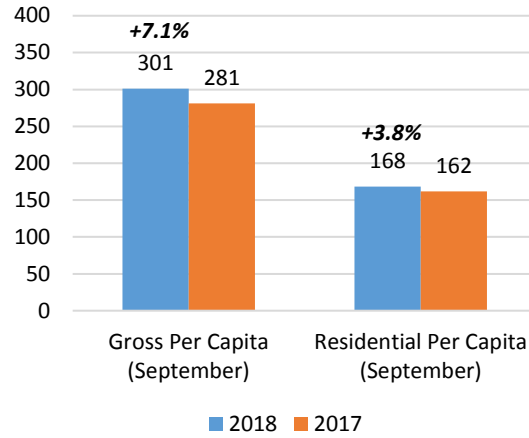


Water Division October 2018 Dashboard

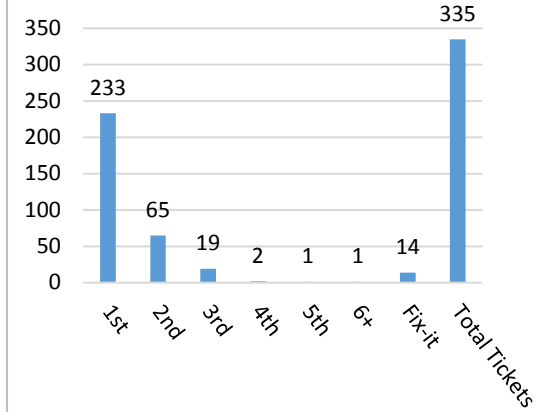
Production & Delivery Volumes (MG)



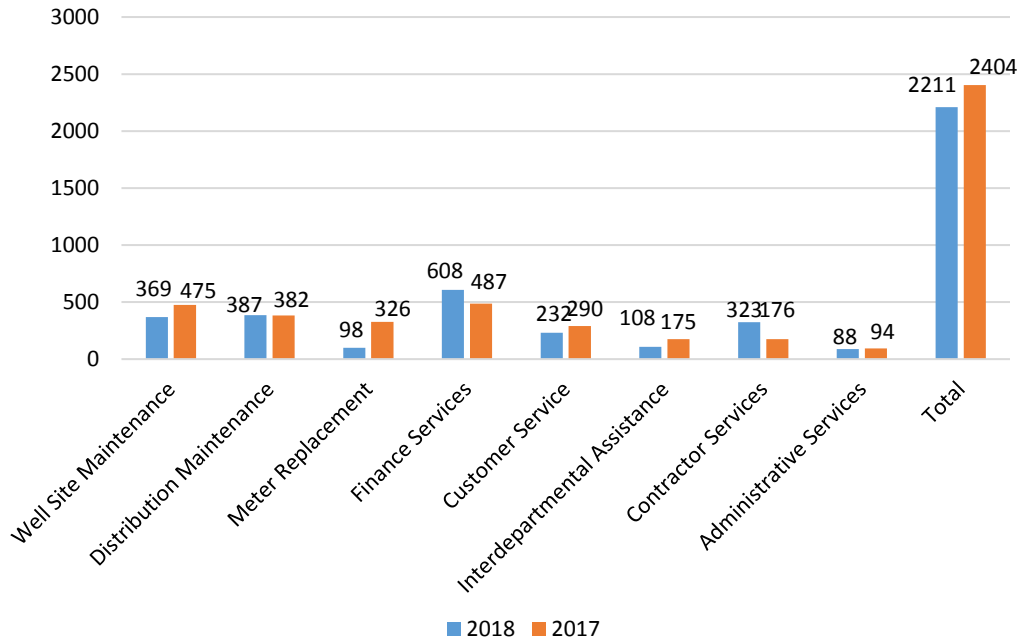
GPCD & Residential -GPCD



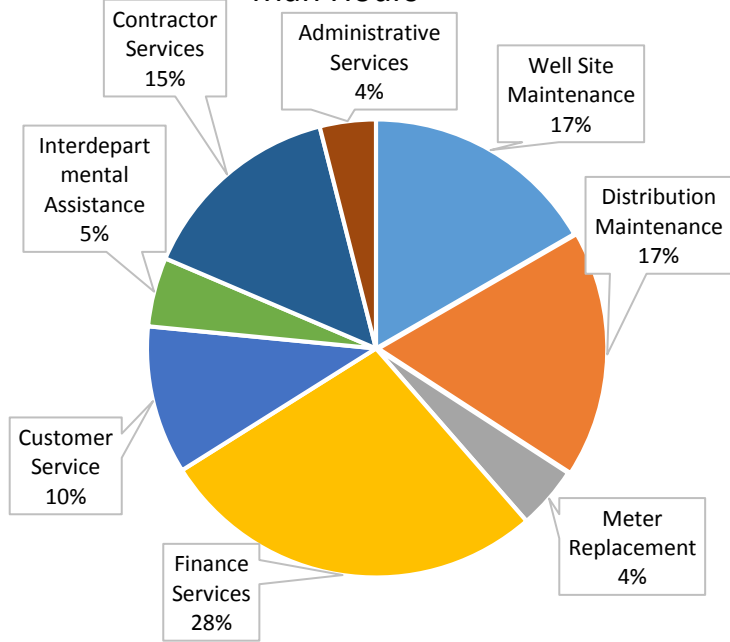
October Water Waste Tickets



Water Man Hours - October 2017 & 2018



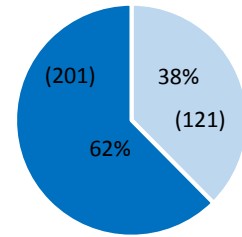
October 2018 Water Maintenance Man Hours



**City of Tulare WWTP Division
October Dashboard**

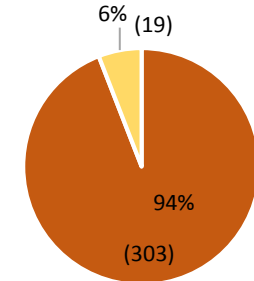
Compliance				
	BOD <40mg/l	TSS <40mg/l	Ammonia <10mg/l	Nitrogen <10mg/l
Efficiency	99%	98%	90%	97%
Sample Avg (mg/l)	14.50	18.78	4.82	3.14
Air Permits		Influent (MG)	Domestic	Industrial
# of Permits	14	Daily Avg	4.4	7.2
# Compliant	14	Total Month	136.0	221.9
		Daily Peak	5.7	9.5
Effluent (MG)				
		Combined	357.9	

Domestic and Industrial Maintenance Work Orders



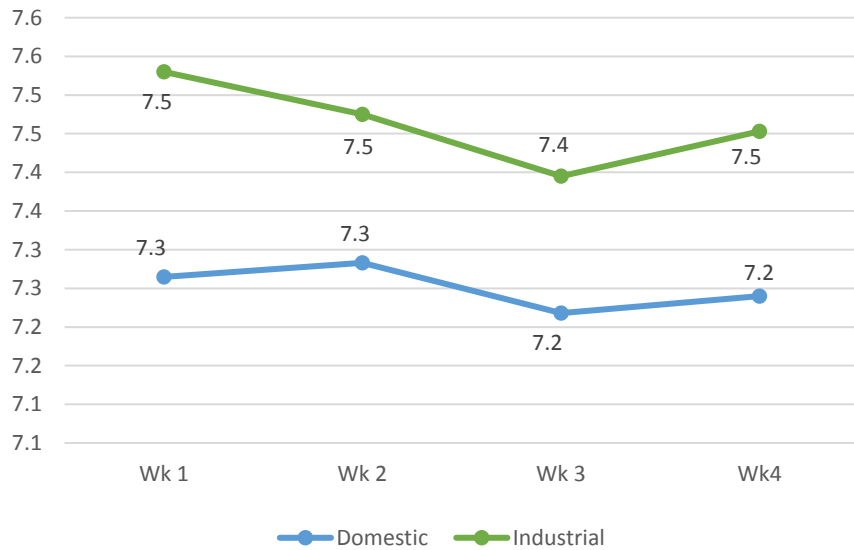
■ Domestic ■ Industrial

Preventative and Corrective Work Orders

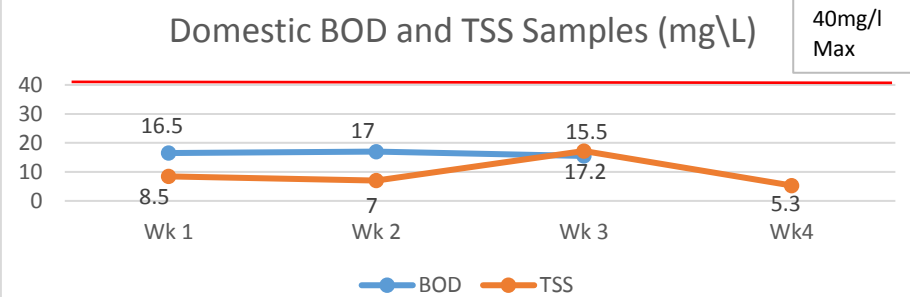


■ Preventative Maintenance
■ Corrective Maintenance

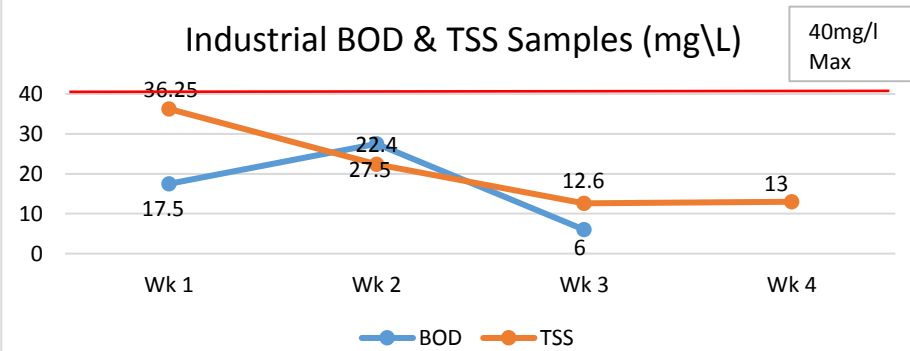
Domestic & Industrial pH



Domestic BOD and TSS Samples (mg/L)



Industrial BOD & TSS Samples (mg/L)



**CITY OF TULARE, CALIFORNIA
BOARD OF PUBLIC UTILITIES COMMISSIONERS
AGENDA ITEM TRANSMITTAL SHEET**

Submitting Department: Public Works - Wastewater

For Board Meeting of: November 15, 2018

Documents Attached: Ordinance Resolution Other None

AGENDA ITEM:

Approve and authorize the City Manager to execute an amendment to the Power Purchase Agreement (PPA) between the City and 1875 West St Solar, LLC, referred to as Borrego Solar Systems, subject to minor conforming changes by the City Attorney's Office.

IS PUBLIC HEARING REQUIRED: Yes No

BACKGROUND/EXPLANATION:

On August 16, 2018 the Board approved the PPA with Borrego Solar Systems and on September 4, 2018 the City Council approved the same PPA. This amendment to the already approved PPA with Borrego is requested because Borrego's financial backer has requested certain changes to the agreement. The principal change is to provide that the City will take ownership of buried electric lines and a transformer that will be installed by Borrego but not within its leased area. Borrego noted the potential difficulty in owning equipment on land that it did not control or have ability to maintain.

The charges for this installed conduit and equipment are embedded within the existing PPA rate which will not change as a result of this amendment. This change deletes Schedule 2 of the original PPA and replaces it with Exhibit A illustrating the leased area for the new 2MW PV arrays and the routing on the conduit and wiring and transformer on the WWTP premises.

Other changes to the PPA have been made to conform to the ownership provision described above, to clarify the definition of "system" and where it begins and ends, and other technical changes. The attached annotated version of the amendment specifies these changes and their location in the document.

While requested by Borrego, the changes offer clarification that are equally beneficial to the City. Accepting ownership of the buried line and equipment located on City land—that is not leased by Borrego is appropriate because the City has current responsibility for these areas and access to them.

The PPA with Borrego remains in full effect and the City Attorney has reviewed and approved of the proposed amendment.

STAFF RECOMMENDATION:

Approve and authorize the City Manager to execute an amendment to the Power Purchase Agreement (PPA) between the City and 1875 West St Solar, LLC, referred to as Borrego Solar Systems, subject to minor conforming changes by the City Attorney's Office.

CITY ATTORNEY REVIEW/COMMENTS: Yes N/A

IS ADDITIONAL (NON-BUDGETED) FUNDING REQUIRED: Yes No N/A

FUNDING SOURCE/ACCOUNT NUMBER:

Submitted by: Trisha Whitfield

Title: Project Manager

Date: November 7, 2018

City Manager Approval: _____

FIRST AMENDMENT TO POWER PURCHASE AGREEMENT

THIS FIRST AMENDMENT TO POWER PURCHASE AGREEMENT (this “Amendment”) is entered into by and between 1875 West St Solar, LLC, a Delaware limited liability company (“Provider”) and the City of Tulare, a California Municipality (“Customer”) and is effective as of _____, 2018 (the “Effective Date”). Provider and Customer are sometimes referred to herein individually as, a “Party”, or collectively as, the “Parties”.

RECITALS

WHEREAS, Provider and Customer entered into that certain Power Purchase Agreement dated as of August 16, 2018 (the “Agreement”).

WHEREAS, the Parties now desire to amend the Agreement.

AGREEMENT

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties hereby agree to amend the Agreement as follows:

1. Recitals; Terms. The Parties hereby agree that the Recitals above are true and accurate and are incorporated herein. All capitalized terms set forth herein shall have the same meaning as in the Agreement unless otherwise specifically set forth herein.

2. Amendment. The Agreement is hereby amended as follows:

(i) Schedule 2 is hereby deleted in its entirety and replaced with Schedule 2 attached hereto as Exhibit A.

(ii) The term “Actual Production”, as defined below, is added to Section 1.1:

“Actual Production” means the Actual Production recorded by the Meter during a True-Up Period.”

(iii) The definition of “Adjusted Annual Production” is deleted in its entirety and replaced by the term “Adjusted Production”, as defined below:

“Adjusted Production” has the meaning set forth in Section 2.2(b).”

(iv) The definition of “Interconnection Point” is deleted in its entirety and replaced with the following:

“ “Interconnection Point” means the interface point of the Existing System with the local electric distribution system providing electric service to Customer at the Property.”

(v) The definition of “System” is deleted in its entirety and replaced with the following:

“ “System” means an integrated assembly of photovoltaic panels, mounting assemblies, inverters, converters, metering, lighting fixtures, transformers, ballasts, disconnects, combiners, switches, wiring devices and wiring and interconnections with the Delivery Point, as more specifically described in Schedule 2.”

(vi) Section 2.2 (b) is deleted in its entirety and replaced with the following:

“Within ninety (90) days following the expiration of each True-Up Period, the Parties shall compare the total Actual Production from the System for such True-Up Period, as adjusted for Guaranteed Production Adjustment Causes (the “Adjusted Production”) with the total Guaranteed Production for that same True-Up Period, as specified in Schedule 6. To the extent that total Adjusted Production for the applicable True-Up Period is less than the total Guaranteed Production for that same True-Up Period, then, subject to the remainder of this paragraph, Provider shall pay Customer a dollar amount equal to the product of (i) the Performance Guarantee Rate multiplied by (ii) the difference in kWh equal to the total Guaranteed Production for such True-Up Period minus the total Adjusted Production for such True-Up Period. If the total Adjusted Production in any True-Up Period exceeds the total Guaranteed Production for such True-Up Period, any excess may be applied by Provider prospectively to other True-Up Periods. Any excess production remaining at the end of the Guaranteed Production Period may be applied retroactively by Provider to any shortfall in Guaranteed Production previously paid by Provider during the Guaranteed Production Period. In the event Provider applies such excess retroactively, Customer shall reimburse Provider for any payments made by Provider in previous True-Up Periods.”

(vii) Section 2.2(c) is deleted in its entirety and replaced with the following:

“(c) Provider shall provide monthly reports to Customer showing at a minimum the energy produced on a monthly basis in kilowatt hours (kWh).

(viii) The references to (1) “each System” in Sections 4.2, 4.3, 4.4, 5.1, 5.8 and 10.1 and (2) “Systems” in Sections 5.1 and 5.8, in each instance, shall be deemed to be references to “the System”.

(ix) The first sentence of Section 4.5 is deleted in its entirety and replaced with the following:

“Provider shall install, own and maintain a revenue-grade kilowatt-hour meter (“Meter”) on the Property for the measurement of Actual Production provided to Customer at the Delivery Point on a continuous basis.”

(x) Section 5.6 is deleted in its entirety and replaced with the following:

“As between the Parties, Provider will be deemed to be in exclusive control (and responsible for any property damage or injuries to persons caused thereby) of the Actual Production up to but excluding the Delivery Point and Customer will be deemed to be in exclusive control (and responsible for any property damage or injuries to persons caused thereby) of the Actual Production at and from the Interconnection Point. Risk of loss related to Actual Production will transfer from Provider to Customer at the Delivery Point.”

(xi) The first sentence of Section 5.13 is deleted in its entirety and replaced with the following:

“In addition to the right of Provider to shut down the System for maintenance or repairs as provided in Section 4.6, Provider may shutdown the System or the existing photovoltaic system currently located on the Property (including all equipment after the Delivery Point as shown on Schedule 2, the “Existing System”) if in the exercise of its reasonable judgment, Provider believes Premises conditions or activities of persons on the Premises which are not under the control of Provider, whether or not under the control of Customer, may interfere with the safe operation of the System.”

(xii) Section 5.16 is deleted in its entirety and replaced with the following:

“If an interconnection with the Local Electric Utility becomes deactivated such that the System is no longer able to produce energy or deliver energy to the Delivery Point or the Local Electric Utility for any reason, including, without limitation, deactivation caused by or related to the Existing System, Customer will pay Provider any Lost Provider Revenues associated with the period of such deactivation; provided, however, that Customer shall not be responsible for such Lost Provider Revenues to the extent deactivation is: (a) caused by a Force Majeure Event; or (b) caused by or related to Provider’s default under this Agreement.”

(xiii) The last sentence of Section 6.3, beginning with the words “Upon the Expiration Date” and ending with the words “in relation to the Purchase Option” is deleted in its entirety.

(xiv) Section 7.5 is deleted in its entirety and replaced with the following:

“This Agreement is a service contract pursuant to Section 7701(e)(3) of the Internal Revenue Code of 1986.”

(xv) The following sentence is added to the end of Section 11.4(e):

“Customer shall provide such documents within thirty (30) days of Provider’s request.”

3. Conflicts. Except as expressly modified herein, the terms and provisions of the Agreement shall remain in full force and effect. In case of any inconsistencies between the terms and conditions contained in the Agreement and the terms and conditions of this Amendment, the terms and conditions of this Amendment shall control.

4. Governing Law. This Amendment shall be governed by the laws of the State of California.

5. Authorization. The persons who have executed this Amendment represent and warrant that they are duly authorized to execute this Amendment in their individual or representative capacity as indicated.

6. Counterparts. This Amendment may be executed in one or more counterparts, each of which shall be deemed an original, but all of which taken together shall constitute one and the same instrument.

7. Drafting Presumption. This Amendment has been and shall be construed to have been drafted by all Parties to it so that the rule of construing ambiguities against the drafter shall have no force or effect.

[Remainder of page intentionally left blank. Signature page follows.]

IN WITNESS WHEREOF, the parties hereto have entered into this Amendment as of the Effective Date.

PROVIDER:

1875 WEST ST SOLAR, LLC

By: _____

Name: _____

Its: _____

CUSTOMER:

THE CITY OF TULARE

By: _____

Name: _____

Its: _____

Exhibit A

[Schedule 2 begins on following page

FIRST AMENDMENT TO POWER PURCHASE AGREEMENT

THIS FIRST AMENDMENT TO POWER PURCHASE AGREEMENT (this “Amendment”) is entered into by and between 1875 West St Solar, LLC, a Delaware limited liability company (“Provider”) and the City of Tulare, a California Municipality (“Customer”) and is effective as of _____, 2018 (the “Effective Date”). Provider and Customer are sometimes referred to herein individually as, a “Party”, or collectively as, the “Parties”.

RECITALS

WHEREAS, Provider and Customer entered into that certain Power Purchase Agreement dated as of August 16, 2018 (the “Agreement”).

WHEREAS, the Parties now desire to amend the Agreement.

AGREEMENT

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties hereby agree to amend the Agreement as follows:

1. Recitals; Terms. The Parties hereby agree that the Recitals above are true and accurate and are incorporated herein. All capitalized terms set forth herein shall have the same meaning as in the Agreement unless otherwise specifically set forth herein.

2. Amendment. The Agreement is hereby amended as follows:

(i) Schedule 2 is hereby deleted in its entirety and replaced with Schedule 2 attached hereto as Exhibit A. **Updated to show equipment gifted to Tulare South of new array**

(ii) The definition of “Adjusted Annual Production” is deleted in its entirety and replaced by the term “Adjusted Production”, as defined below: **Removes the word “annual” to clarify that true up will not be performed annually**

“Adjusted Production” has the meaning set forth in Section 2.2(b).”

(iii) The definition of “Interconnection Point” is deleted in its entirety and replaced with the following:

“ “Interconnection Point” means the interface point of the Existing System with the local electric distribution system providing electric service to Customer at the Property.” **Clarifies where interconnection point occurs (prior to this is simply said system)**

(iv) The definition of “System” is deleted in its entirety and replaced with the following:

“ “System” means an integrated assembly of photovoltaic panels, mounting assemblies, inverters, converters, metering, lighting fixtures, transformers, ballasts, disconnects, combiners, switches, wiring devices and wiring and interconnections with the Delivery Point, as more specifically described in Schedule 2.” **Clarifies system is in reference to the NEW 2 MW system being installed, adds delivery point**

(v) Section 2.2 (b) is deleted in its entirety and replaced with the following:

“Within ninety (90) days following the expiration of each True-Up Period, the Parties shall compare the total Actual Production from the System for such True-Up Period, as adjusted for Guaranteed Production Adjustment Causes (the “Adjusted Production”) **Section updates FROM “Adjusted Annual Production” TO “Adjusted Production” to clarify true up period.**

with the total Guaranteed Production for that same True-Up Period, as specified in Schedule 6. To the extent that total Adjusted Production for the applicable True-Up Period is less than the total Guaranteed Production for that same True-Up Period, then, subject to the remainder of this paragraph, Provider shall pay Customer a dollar amount equal to the product of (i) the Performance Guarantee Rate multiplied by (ii) the difference in kWh equal to the total Guaranteed Production for such True-Up Period minus the total Adjusted Production for such True-Up Period. If the total Adjusted Production in any True-Up Period exceeds the total Guaranteed Production for such True-Up Period, any excess may be applied by Provider prospectively to other True-Up Periods. Any excess production remaining at the end of the Guaranteed Production Period may be applied retroactively by Provider to any shortfall in Guaranteed Production previously paid by Provider during the Guaranteed Production Period. In the event Provider applies such excess retroactively, Customer shall reimburse Provider for any payments made by Provider in previous True-Up Periods.”

(vi) Section 2.2(c) is deleted in its entirety and replaced with the following:

“(c) Provider shall provide monthly reports to Customer showing at a minimum the energy produced on a monthly basis in kilowatt hours (kWh). **Added the word “hours” to clarify meaning and to conform to” kWh” designation in original document.**

(vii) The references to (1) “each System” in Sections 4.2, 4.3, 4.4, 5.1, 5.8 and 10.1 and (2) “Systems” in Sections 5.1 and 5.8, in each instance, shall be deemed to be references to “the System”. **Clarifies in stated sections that the updated definition of “the System” applied to those respective sections**

(viii) The first sentence of Section 4.5 is deleted in its entirety and replaced with the following:

“Provider shall install, own and maintain a revenue-grade kilowatt-hour meter (“Meter”) on the Property for the measurement of Actual Production provided to Customer at the Delivery Point on a continuous basis.”

(ix) Section 5.6 is deleted in its entirety and replaced with the following: **Updates to include clarified definition of “Actual Production” and specifies location of (the Delivery Point)**

“As between the Parties, Provider will be deemed to be in exclusive control (and responsible for any property damage or injuries to persons caused thereby) of the Actual Production up to but excluding the Delivery Point and Customer will be deemed to be in exclusive control (and responsible for any property damage or injuries to persons caused thereby) of the Actual Production at and from the Interconnection Point. Risk of loss related to Actual Production will transfer from Provider to Customer

at the Delivery Point.” **Delivery point clarification; updates where ownership of PV related facilities ends and begins.**

(x) The first sentence of Section 5.13 is deleted in its entirety and replaced with the following:

“In addition to the right of Provider to shut down the System for maintenance or repairs as provided in Section 4.6, Provider may shutdown the System or the existing photovoltaic system currently located on the Property (including all equipment after the **Delivery Point Clarifies where PPA (Borrego) ownership of system starts**

as shown on Schedule 2, the “Existing System”) if in the exercise of its reasonable judgment, Provider believes Premises conditions or activities of persons on the Premises which are not under the control of Provider, whether or not under the control of Customer, may interfere with the safe operation of the System.”

(xi) Section 5.16 is deleted in its entirety and replaced with the following:

“If an interconnection with the Local Electric Utility becomes deactivated such that the System is no longer able to produce energy or deliver energy to the **Delivery Point Clarifies where PPA (Borrego) ownership starts**

or the Local Electric Utility for any reason, including, without limitation, deactivation caused by or related to the Existing System, Customer will pay Provider any Lost Provider Revenues associated with the period of such deactivation; provided, however, that Customer shall not be responsible for such Lost Provider Revenues to the extent deactivation is: (a) caused by a Force Majeure Event; or (b) caused by or related to Provider’s default under this Agreement.”

(xii) The last sentence of Section 6.3, beginning with the words “Upon the Expiration Date” and ending with the words “in relation to the Purchase Option” is deleted in its entirety. **Equipment is now owned by Tulare, no longer needed**

(xiii) Section 7.5 is deleted in its entirety and replaced with the following:

“This Agreement is a service contract pursuant to Section 7701(e)(3) of the Internal Revenue Code of 1986.” **Added 1986 year for clarification.**

(xiv) The following sentence is added to the end of Section 11.4(e):

“Customer shall provide such documents within **thirty (30) days of Provider’s request.**” **Added because the Borrego financial investor wanted a specific timeline.**

3. Conflicts. Except as expressly modified herein, the terms and provisions of the Agreement shall remain in full force and effect. In case of any inconsistencies between the terms and conditions contained in the Agreement and the terms and conditions of this Amendment, the terms and conditions of this Amendment shall control.

4. Governing Law. This Amendment shall be governed by the laws of the State of California.

5. Authorization. The persons who have executed this Amendment represent and warrant that they are duly authorized to execute this Amendment in their individual or representative capacity as indicated.

6. Counterparts. This Amendment may be executed in one or more counterparts, each of which shall be deemed an original, but all of which taken together shall constitute one and the same instrument.

7. Drafting Presumption. This Amendment has been and shall be construed to have been drafted by all Parties to it so that the rule of construing ambiguities against the drafter shall have no force or effect.

[Remainder of page intentionally left blank. Signature page follows.]

IN WITNESS WHEREOF, the parties hereto have entered into this Amendment as of the Effective Date.

PROVIDER:

1875 WEST ST SOLAR, LLC

By: _____

Name: _____

Its: _____

CUSTOMER:

THE CITY OF TULARE

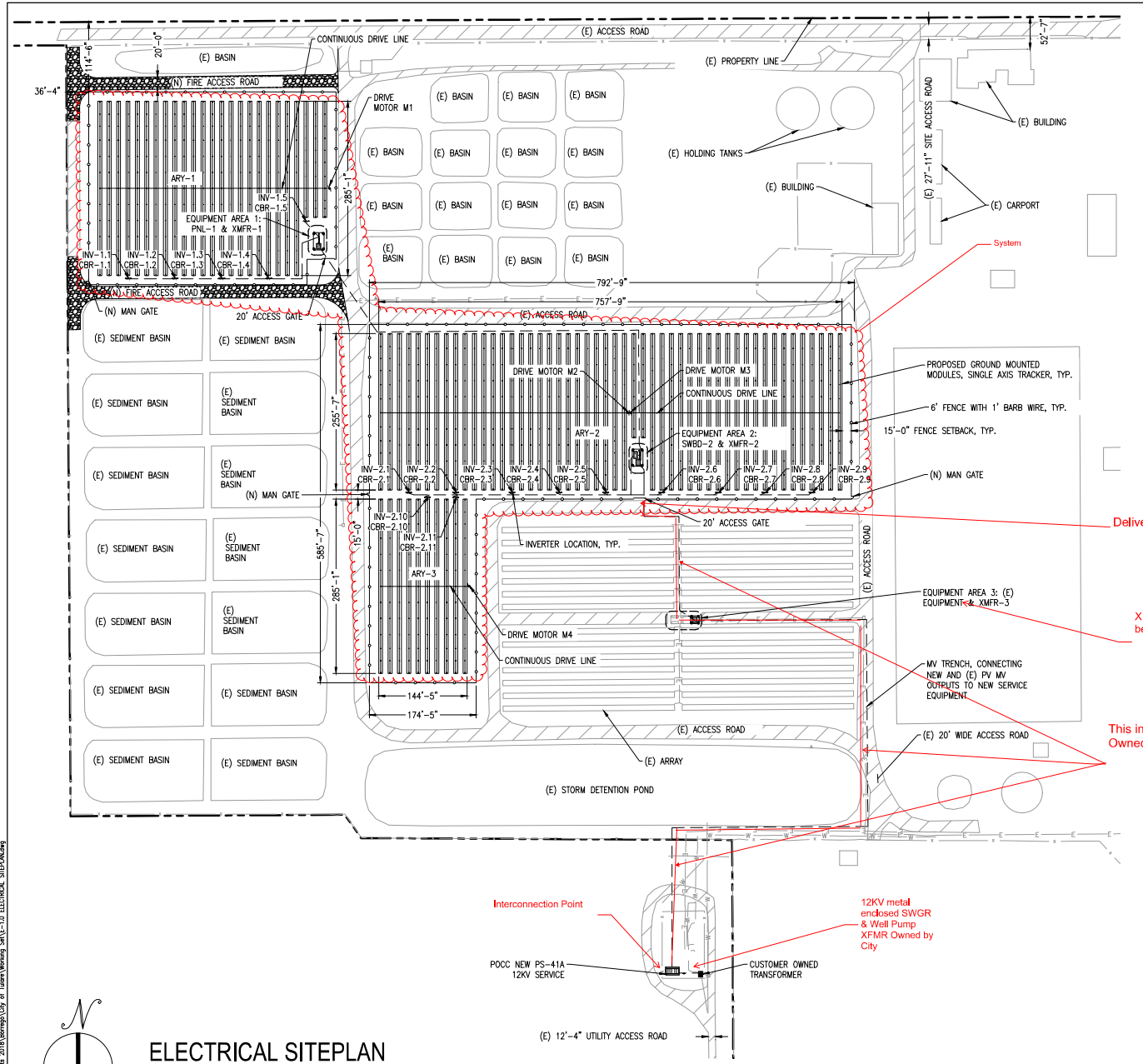
By: _____

Name: _____

Its: _____

Exhibit A

[Schedule 2 begins on following page



SHEET NOTES

- DEFINITIONS:
 PV ARRAY – (FROM NEC 690) – A MECHANICALLY INTEGRATED ASSEMBLY OF MODULES OR PANELS WITH A SUPPORT STRUCTURE AND FOUNDATION, TRACKER AND OTHER COMPONENTS, AS REQUIRED TO FORM A DIRECT-CURRENT POWER-PRODUCING UNIT. BORREGO WILL FURTHER DEFINE PV ARRAY TO BE – A PHYSICAL GROUPING OF MODULES WHERE NO SINGLE GAP > 3 EXISTS BETWEEN ANY TWO MODULES IN THE GROUPING.
 STRING – A GROUP OF MODULES WIRED IN SERIES.
 INVERTER BLOCK – GROUP OF MODULES WIRED TO A SINGLE INVERTER.
 SUB-ARRAY – AN ELECTRICAL SUBSET OF A PV ARRAY.
 1. SEE ELECTRICAL DETAILS FOR TRENCH DEPTH, CONDUITS CHAIRS & PROPER CONDUIT-TO-CONDUIT SPACING REQUIREMENTS.
 2. IT IS THE RESPONSIBILITY OF THE SUBCONTRACTOR TO HAVE ALL UNDERGROUND UTILITIES MARKED PRIOR TO CONSTRUCTION.
 3. CONNECTORS SHALL BE BY THE SAME MANUFACTURER AS THOSE ON THE MODULES.
 4. REFER TO STRUCTURAL PLANS FOR REQUIRED SEPARATION DISTANCE BETWEEN EXCAVATIONS AND RACKING FOUNDATIONS.
 5. SUBCONTRACTOR TO PROVIDE SUBMITTAL OF PULL CALCULATIONS FOR EACH MV CABLE RUN, VERIFYING CABLE INSTALLED TO MANUFACTURER'S SPECIFICATION FOR CABLE TENSION AND SIDE WALL PRESSURE.
 6. PROVIDE SEPARATE HANDHOLDERS FOR MV, COMMUNICATIONS, AND LV (DC AND AC) CONDUITS AS REQUIRED FOR WIRE PULLING AND CODE COMPLIANCE. SUBCONTRACTOR TO PROVIDE SUBMITTAL FOR HANDHOLD. SEE ELECTRICAL SPEC SHEET SECT. 260533 Y.
 7. ADDRESS #'S SHALL BE INSTALLED ON FENCE NEXT TO THE GATE IN 12" HIGH PERMANENT LETTERING.
 8. INSTALL PORTABLE FIRE EXTINGUISHERS PER TITLE 19, BUT NOT LESS THAN 2A10BC IN RATING, AT EACH EQUIPMENT AREA. CONTACT CERTIFIED EXTINGUISHER COMPANY FOR PROPER PLACEMENT AND SPACING OF EQUIPMENT.
 9. IN THE EVENT CONDUITS ARE INSTALLED UNDERGROUND BY DIRECTIONAL BORING, SUBCONTRACTOR SHALL SUBMIT BORE PLAN TO BORREGO FOR APPROVAL.
 10. LOCKABLE COVERS SHALL BE PROVIDED FOR PULLBOXES (BELOW 10') AND HANDHOLES IN PEDESTRIAN AREAS. SUBMITTAL REQUIRED.
 11. CONDUIT RUNS SHOWN ARE INDICATIVE OF PATH AND CONVEY ORIGIN AND TERMINATION. SUBCONTRACTOR TO DETERMINE BEST ROUTE PER FIELD CONDITIONS. FINAL CONDUIT PATH SHALL BE APPROVED WITH BORREGO SITE SUPERVISOR PRIOR TO INSTALLATION.
 12. INSTALLATION ON THE UTILITY SIDE OF THE POCC SHALL COMPLY WITH UTILITY REQUIREMENTS – UTILITY STANDARDS TO BE PROVIDED BY BORREGO.

NOT FOR CONSTRUCTION

CITY OF TULARE RES-BOT
 SOLAR ELECTRIC SYSTEM
 1875 S WEST ST., TULARE, CA 93274

PROJECT NUMBER:
 902-0920

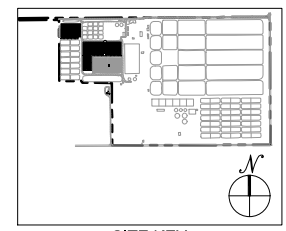
REV	DATE	BY	CHKD	REASON	RELEASE DATE
1	7/17/18	CS	RM	ISSUED FOR REVIEW	
2	9/25/18	CS	RM	ISSUED FOR REVIEW	

SCALES STATED ON DRAWINGS ARE VALID ONLY WHEN PLOTTED AT 9" X 12" @ 1"=80'

E-1.0
 ELECTRICAL SITEPLAN

ELECTRICAL SITEPLAN

SCALE: 1" = 80'
 0 80' 160'



SITE KEY

\\BNA\Share\Projects\2018\Borrego\City of Tulare\Working Set\E-1.0 ELECTRICAL SITEPLAN.dwg