Supporting Narrative/Methodology for Attachment 2 Calculations

Irrigation Project

Step 1, Baseline volume of water: 125 million gallons per year
The current water use for the 75-acre area using data provided by the Orange County Water District is approximately 125 million gallons per year, or 383 acre-feet of water. Supporting documentation is attached that supports this water use.

July 1, 2013 to December 31, 2013 OCWD Statement:	187 AF
January 1, 2014 to June 30, 2014, OCWD Statement:	196 AF
Total Acre Feet:	383 AF
Convert to Gallons (325,851 gallons = 1 acre feet:	125 million gallons, rounded
	(325,851 x 383 AF = 125 million gallons)

Step 2, Volume of water delivered after project: 100 million gallons per year
The project proposes to retrofit the current block system by converting the entire golf course area to a single head controller and installing a new updated main line with lateral lines. This will allow maintenance staff to run specific heads (for example, just a fairway head), which in turn will provide significant water savings in the long-term. The proposed water savings is estimated to be 25 million gallons per year, or roughly 77 acre-feet per year. The estimated project life is 30 years (based upon industry standards, see sample Rain Bird water savings spec sheet), which will yield 750 million gallons of water saved over 30 years, or 2,300 acre-feet.

Current gallons consumed:	125 million
Estimated gallons consumed, post-project:	100 million (20% reduction)
Estimated Savings:	25 million gallons (or 77 AF)

Step 3, Hot water saved (gas): Not Applicable

S***tep 4, Hot water saved (electric):*** Not Applicable

Step 5, Useful life: 30 years
According to the Golf Course Industry publication, a typical irrigation system for a golf course should last for up to 30 years. (www.golfcourseindustry.com)

Step 6, Percent of imported water: 0, see narrative
The water source for the Dad Miller Golf Course is groundwater. According to Roy Herndon, Chief Hydrologist for the Orange County Water District, the groundwater is recharged with water from a variety of sources including the State Water Project, Colorado River, the Santa Ana River, and storm water runoff. Because exact estimates are not known as to how much of these water sources are attributed to the groundwater immediately supplying water to the Dad Miller Golf Course, we are proposing to be conservative and use 0% for the percentage of water imported.

Step 7, Energy Intensity associated with water savings: 373.18 kWh/million gallons
Using energy calculations provided by the Anaheim Public Utilities (see attached), we know that the total energy use for the electrical meter for the irrigation pump station is 233,240 kW/hour (or 1,866 kWh/MG). We are projecting a 20% reduction in water use and therefore we are using a simple methodology estimating a correlating 20% reduction in energy use. The resultant energy intensity associated with the water savings is 373.18kWh/MG calculated as follows:

Current gallons consumed:	125 million
Estimated gallons consumed, post-project:	100 million (20% reduction)
Estimated Savings:	25 million gallons
Current energy intensity for pump station:	233,240 kW/hour
Conversion to kWh/MG:	233,240 kW/hour / 125,000,000 million gallons = 0.0018659 kW/hour per gallon 0.0018659 x 1,000,000 = 1,865.9 kW/hour per MG (1,866 rounded)
Estimated percent reduction:	20%
Energy intensity savings:	***373 kW/hour per MG*** (1,866 kW/hour per MG x 20%)

Step 8, Total output emission rate: Not Applicable

Step 9, Energy Intensity (Supply and Conveyance) for Imported Water: 0, See Step 6.

Step 10, Additional energy savings: Not Applicable

Lighting Project

Step 1, Baseline volume of water: Not Applicable

Step 2, Volume of water delivered after project: Not Applicable

Step 3, Hot water saved (gas): Not Applicable

Step 4, Hot water saved (electric): Not Applicable

Step 5, Useful life: 16 years
Based on measure quantification data prepared by KEMA Services, Inc. for the Northern California Power Agency, NCPA Members, Southern California Public Power Authority and SCPPA Members (December 2009), LED fixtures have a 16 year useful life (page 126 of the report). A copy is attached.

Step 6, Percent of imported water: Not Applicable

Step 7, Energy Intensity associated with water savings: Not Applicable

Step 8, Total output emission rate: 0.4503 kg CO2e/kWh -
Please see the City of Anaheim Annual Report to the California Energy Commission that supports the City of Anaheim's carbon emission Factor (for retail) at 0.4503 mtCO2e/MWh.

Step 9, Energy Intensity (Supply and Conveyance) for Imported Water: Not Applicable

Step 10, Additional energy savings: 77,211
Using City of Anaheim Lighting Rebate forms and templates (see attached), the total energy use at the golf course is estimated to be 138,787 kWh/year. After the lighting retrofits are installed, the energy use at the golf course is estimated to be 61,575 kWh/year. The APU staff are estimating annual energy savings from energy efficiency and renewable energy from the lighting retrofits to be 77,212 (rounded) kWh/year (138,787 kWh/year - 61,575 kWh/year = 77,212 kWh/year savings). The result is a 56% decrease in energy use. (new -old/old = percent change) {(61,575 - 138,787) / 138,787} = 56%.

Supporting Documents for Current Water Use at Dad Miller Golf Course

(OCWD Statements)

ORANGE COUNTY WATER DISTRICT
P.O. BOX 20845, FOUNTAIN VALLEY, CALIFORNIA 92728-8300
TELEPHONE: (714) 378-3200

OCWD FORM NO. 3-RA PERIOD
REV. 12/21/2013 119

WATER PRODUCTION STATEMENT

For Period July 1, 2013 To December 31, 2013

To be completed and filed by each operator of a water producing facility within Orange County Water District, as required by Section 29 and 29.1 of the Orange County Water District Act as amended.

Water Producing Facility No. 71-09-5-A
City of Anaheim Well No. * 24A *

1012

ANAHEIM, CITY OF
PUBLIC UTILITIES - LEE LAHTINEN
201 S. ANAHEIM BLVD. - SUITE 902
ANAHEIM, CALIF. 92805

A. Retain a COPY of this statement and file the ORIGINAL with Orange County Water District.
B. File this Water Production Statement on or before **31-Jan-14**
After that, interest accrues at 1% per month or fraction thereof.
C. Pay replenishment assessment on or before **31-Jan-14**
After that, interest accrues at 1% per month or fraction thereof.
D. Returns postmarked after **31-Jan-14**
must under the law be considered delinquent. Please mail or file in time to avoid penalties.
10% penalty accrues 30 days after filing due date.
E. If this form is mailed, enclose check or money order payable to:
ORANGE COUNTY WATER DISTRICT

Code 4S-10W-7L1

6 = Number of Digits in Flow Meter Reading

IMPORTANT !!!
You must compute the assessment due as shown in Items (6) & (8) below. Be sure to pay the total due as shown in Item (9) NO LATER THAN **31-Jan-14**

(1) Water meter reading end of period 494,671
(2) Water meter reading beginning of period 307,966
(3) Total units: Subtract item (2) from (1) 186,705
Acre Feet (Unit of Measurement) 0.001 (Multiplier)
(4) Total production in item (3) above expressed in Acre Feet 186.7 Ac. Ft. to nearest 1/10th
(5) Additional water produced during period NOT INCLUDED IN WATER METER READINGS: (e.g. PUMP TO WASTE, MWD CUP) _____ Ac. Ft. to nearest 1/10th + _____ PUMP TO WASTE
(6) Total water produced: Add items (4) and (5) 186.7 Ac. Ft. to nearest 1/10th X $138.00 = $ 25,764.60

CLASSIFICATION OF USE OF WATER

(7) Amount of water in item (6) used for irrigation purposes: _____ Ac. Ft. to nearest 1/10th

IRRIGATION, as used herein, means the act of first using water to place it on lands by any means for the commercial production of agricultural, horticultural or floricultural crops and for pasture grown for commercial purposes.

(8) Amount of water in item (6) used for all purposes other than irrigation: Subtract item (7) from (6) 186.7 Ac. Ft. to nearest 1/10th X $138.00 = $ 25,764.60
(9) TOTAL REPLENISHMENT ASSESSMENTS: Add $ amounts in Items (6) and (8) ..... $ 51,529.20

(Please be sure to sign the certification statement below)

(For OCWD Accounting Use Only) **DO NOT WRITE IN THIS SPACE**

Figures Verified By:

CERTIFICATION

I DECLARE, under the penalties of perjury that this water production statement, including the statements made and the figures shown, has been examined by me, and to the best of my knowledge and belief is a true, correct and complete statement.
Producers (defined as Cities, Water Districts and Golden State Water Co.) shall annually calibrate the well meter or follow the calibration procedure applicable to the meter type as recommended by the respective meter manufacturer or Anaheim Water Works Association if none exist, and utilize qualified personnel to perform the calibration. The Producer shall provide to the District the certification of test results signed by a California registered professional engineer or a certified calibration technician performing the calibration and affixed with the engineer's current registered engineer stamp or the calibration technician's certification identification, whatever is applicable. Alternatively, results from a well system check performed by Southern California Edison or other similar contractor approved by the District can be submitted to verify that accurate pumping results are being reported.

(Date) 14-Jan-14 (Phone No.) 765-5196 Y.G. (Signature)

ENCLOSED IS CHECK NUMBER _____ DRAWN ON _____ (Name of Bank) FOR $51,529.20

ORANGE COUNTY WATER DISTRICT
P.O. BOX 20845, FOUNTAIN VALLEY, CALIFORNIA 92728-8300
TELEPHONE: (714) 378-3200

OCWD FORM NO. 3-RA PERIOD
REV. 11/21/95 120

WATER PRODUCTION STATEMENT

For Period January 1, 2014 To June 30, 2014

To be completed and filed by each operator of a water producing facility within Orange County Water District, as required by Section 29 and 29.1 of the Orange County Water District Act as amended.

Water Producing Facility No. 71-09-5-A
City of Anaheim Well No. * 24A *

1012

ANAHEIM, CITY OF
PUBLIC UTILITIES -RICK SHINTAKU
201 S. ANAHEIM BLVD. - SUITE 601
ANAHEIM, CALIF. 92805

A. Retain a COPY of this statement and file the ORIGINAL with Orange County Water District.
B. File this Water Production Statement on or before **31-Jul-14**
After that, interest accrues at 1% per month or fraction thereof.
C. Pay replenishment assessment on or before **31-Jul-14**
After that, interest accrues at 1% per month or fraction thereof.
D. Returns postmarked after **31-Jul-14**
must under the law be considered delinquent. Please mail or file in time to avoid penalties.
10% penalty accrues 30 days after filing due date.
E. If this form is mailed, enclose check or money order payable to ORANGE COUNTY WATER DISTRICT

Code 4S-10W-7L1

6 = Number of Digits in Flow Meter Reading

IMPORTANT !!!
You must compute the assessment due as shown in Items (6) & (8) below. Be sure to pay the total due as shown in Item (9) NO LATER THAN **31-Jul-14**

(1) Water meter reading end of period 690,414
(2) Water meter reading beginning of period 494,670
(3) Total units: Subtract item (2) from (1) 195,744
Acre Feet (Unit of Measurement) 0.001 (Multiplier)

(4) Total production in item (3) above expressed in Acre Feet 195.7 Ac. Ft. to nearest 1/10th

(5) Additional water produced during period NOT INCLUDED IN WATER METER READINGS: (e.g. PUMP TO WASTE, MWD CUP) _____ Ac. Ft. to nearest 1/10th + _____ PUMP TO WASTE

(6) Total water produced: Add items (4) and (5) 195.7 Ac. Ft. to nearest 1/10th X $138.00 = $ 27,006.60

CLASSIFICATION OF USE OF WATER

(7) Amount of water in item (6) used for irrigation purposes: _____ Ac. Ft. to nearest 1/10th

IRRIGATION, as used herein, means the act of first using water to place it on lands by any means for the commercial production of agricultural, horticultural or floricultural crops and for pasture grown for commercial purposes.

(8) Amount of water in item (6) used for all purposes other than irrigation: Subtract item (7) from (6) 195.7 Ac. Ft. to nearest 1/10th X $138.00 = $ 27,006.60

(9) TOTAL REPLENISHMENT ASSESSMENTS: Add $ amounts in Items (6) and (8) ..... $ 54,013.20

(Please be sure to sign the certification statement below)

(For OCWD Accounting Use Only) **DO NOT WRITE IN THIS SPACE**

Figures Verified By:

CERTIFICATION

I DECLARE, under the penalties of perjury that this water production statement, including the statements made and the figure shown, has been examined by me, and to the best of my knowledge and belief is a true, correct and complete statement.
Producers (defined as Cities, Water Districts and Golden State Water Co.) shall annually calibrate the well meter or follow the calibration procedure applicable to the meter type as recommended by the respective meter manufacturer or Anaheim Water Works Association if none exist, and utilize qualified personnel to perform the calibration. The Producer shall provide to the District the certification of test results signed by a California registered professional engineer or a certified calibration technician performing the calibration and affixed with the engineer's current registered engineer stamp or the calibration technician's certification identification, whatever is applicable. Alternatively, results from a well system check performed by Southern California Edison or other similar contractor approved by the District can be submitted to verify that accurate pumping results are being reported.

(Date) 15-Jul-14 (Phone No.) 765-5196 N.D. (Signature) [signature]

ENCLOSED IS CHECK NUMBER _____ DRAWN ON _____ (Name of Bank) FOR $54,013.20

Supporting Document for Estimate of Water Savings (20%)

TEST SITE REPORT

SunBird Golf Club
Chandler, AZ

PROJECT DETAILS

General Manager
Leo Buries

Installation Date
September 2007

PROJECT GOALS

- *Upgrade irrigation system to increase system efficiency and reduce water consumption*
- *Install an automated central control system to improve irrigation water management and reduce troubleshooting and maintenance time*
- *Choose an easy-to-install irrigation system*

RESULTS

- *Installed new EAGLE™ Golf Rotors and an IC System, providing pinpoint irrigation control and improved efficiency.*
- *With fewer components and a simple wire path, the easy-to- install system enable much of the work to be completed in-house by the SunBird maintenance staff.*
- *The system's simplicity reduced maintenance and troubleshooting issues. Advanced diagnostics built into the control software allow the computer to communicate to individual rotors enabling easy identification of field problems.*

For the first time, control technology is integrated right into the rotor.

The IC™ System is easier to install. It requires less wire and fewer splices, saving materials, labor and time.

New Rain Bird IC™ System improves irrigation coverage and simplifies maintenance for SunBird Golf Club

The upgrade was installed in-house, saving water & time

Project Overview
The SunBird Golf Club in Chandler, Arizona is well known as a friendly, executive 18-hole course. Designed by Gary Panks, ASGCA, the SunBird Golf Club opened in 1985. It features narrow fairways that make it challenging to both low and high handicappers. Prior to the renovation the course was irrigating 70 acres of turf with stand-alone controllers. The golf course staff struggled with a host of irrigation management challenges that caused poor sprinkler coverage. The controllers were old technology and challenging to employ effectively.

Project Challenges
The SunBird staff knew that the irrigation system required an upgrade, however they didn't have the resources to hire a contractor to complete a total renovation. The new irrigation system was going to be installed entirely by golf course employees and some volunteer labor, so it had to be straightforward and intuitive. "SunBird needed an updated system—one with improved coverage and maintainability," said Leo Buries, general manager. "We were experiencing long run times, poor irrigation coverage, and the controllers were old and difficult to maintain."

Rain Bird EAGLE™ IC Rotors use up to 23 percent less water to deliver a more playable course.

Central control and Rain Bird's IC Rotors communicate instantly with one another. Voltage tests and diagnostics can be run in real time. Make adjustments. Solve problems. Instantly.

Solutions

To achieve fully integrated central control and increase irrigation efficiency, the team at SunBird chose the Rain Bird IC System, an intelligent control platform that links the rotors directly with the central control. Using significantly less wire and 50 percent fewer splices, Integrated Control Technology™ eliminates satellite controllers, reduces waste, and cuts down on maintenance costs. The simple design and easy installation greatly appealed to the team.

With the IC System, Integrated Control Technology is built right into the rotor. For SunBird, this meant better control, easier installation, and easier maintenance. "The coverage of rotors and single head control allows pinpoint irrigation control. The older system had four to eight heads on a block, which created coverage and maintenance problems. Central control is a huge benefit to both operate and troubleshoot the system," explained Buries.

Buries and a team of employees and volunteers successfully installed the new control system. "The fewer number of components and simple connections made it easy to install. It is very straightforward—I don't know how much simpler it can get!"

> ***"The fewer number of components and simple connections made it easy to install. It is very straightforward — I don't know how much simpler it can get!"***

While a self-install may not fit the plans of most golf courses, it suited SunBird's needs. They also came to understand the value of hiring a professional contractor when it comes to large-scale irrigation system installation. "We found issues with the wire path caused by our installation practices. Using a professional contractor would have eliminated those issues." Buries said. "Fortunately the advanced diagnostics of the IC System were very helpful to isolate and resolve any field issues. We could often identify and troubleshoot a wire issue in as little as 20 minutes using the IC System diagnostics. The ability to measure voltage at any sprinkler right from the computer software is hugely valuable."

Summary

The IC System and straight-to-the-rotor communication—combined with easy installation—made the Rain Bird IC System the right choice for SunBird. The improved irrigation coverage and superior control has simplified maintenance on the course. With no satellite controllers in the field, the IC System enhanced the aesthetics of the course and kept costs down. "The system is awesome. We no longer have controllers on the course—everything is right at the sprinkler. The system is ideal for our course, which is spread across more than 70 acres," said Buries.

In addition to being easy to install, the IC System is easy to maintain. Its intelligent two-way communication direct to every sprinkler on the golf course means that staff can manage troubleshooting through intuitive diagnostics built into the central control software. This simplicity also means greater reliability. With fewer parts, wiring, and splices, the IC System offers consistent, reliable performance. If SunBird wants to upgrade or expand, they can easily add IC Series Rotors, and update the Central Control software as enhancements become available.

Rain Bird Corporation
6991 E. Southpoint Road
Tucson, AZ 85756
Phone (520) 741-6100
Fax (520) 741-6522

The Intelligent Use of Water™

Visit us at www.rainbird.com to learn more about our efforts.

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Supporting Documents for

LED Useful Life (16 years)

MEASURE QUANTIFICATION
Statewide Savings and Cost

FINAL REPORT

Prepared for

**Northern California Power Agency (NCPA), NCPA Members,
Southern California Public Power Authority (SCPPA),
and SCPPA Members**

Prepared by

KEMA Services, Inc.

December 9, 2009

7.11 LED Lighting

This measure consists of replacing screw-in incandescent lamps with light emitting diode (LED) recessed down lamps. Energy-savings calculations assume the LED recessed downlight is ≤ 18 W and screw-in base LED lamp is < 8 W.

Assumptions

The assumptions used to calculate measure energy savings are provided in the following table. Baseline and retrofit wattages use standard industry values. For calculation purposes, the demand savings per lamp for various basecases are weighted (based on KEMA assumptions), and are then averaged together to produce a single demand reduction value.

Table 144. Baseline and Retrofit Wattages for LED Lamps

Base Case lamps	Base Lamp Wattage	Retrofit Lamp Wattage	Demand Savings per lamp (kW)	Weight Percentages
100 W incandescent	100	8	0.092	5%
75 W incandescent	75	8	0.067	15%
60 W incandescent	60	8	0.052	15%
40 W incandescent	40	8	0.032	15%
25 W incandescent	25	8	0.017	25%
15 W incandescent	15	8	0.007	25%
Weighted Average			0.033	

Savings

The following table provides average energy savings for replacing incandescent lamps with LED recessed down lamps by building type.

Table 145. Measure Savings for LED Recessed Down Lamps (per lamp)

Building Type	kWh	kW
Assembly	90	0.017
Education - Community College	90	0.021
Education - Primary School	92	0.010
Education - Relocatable Classroom	70	0.009
Education - Secondary School	95	0.011
Education - University	90	0.022
Grocery	137	0.021
Health/Medical - Hospital	157	0.028
Health/Medical - Nursing Home	147	0.025
Lodging - Hotel	70	0.010
Lodging - Motel	58	0.007
Manufacturing - Bio/Tech	132	0.034
Manufacturing - Light Industrial	97	0.031
Office - Large	114	0.028
Office - Small	122	0.030

Building Type	kWh	kW
Restaurant - Fast-Food	186	0.033
Restaurant - Sit-Down	191	0.034
Retail - Multistory Large	146	0.031
Retail - Single-Story Large	171	0.030
Retail - Small	159	0.031
Storage - Conditioned	100	0.025
Storage - Unconditioned	92	0.019
Average	119	0.023

Cost

Full measure costs were calculated as the average price of 8 LED bulbs sold at CCrane.com (2008 price) ranging from 0.85 W to 4.7 W, which totals $30 per lamp for LED lighting.

Life

The measure life of LED bulbs is 16 years (assumed to be the same exit signs) and was taken from a PG&E work paper on LED open signs.

7.12 Occupancy Sensors

Infrared or ultrasonic motion detection devices turn lights on when a person enters a room, and then turn the lights off after they have left. Only hardwired, passive infrared and/or ultrasonic detectors are relevant to the measure quantification. Wall-or ceiling-mounted sensors should control no more than 1,000 Watts.

Assumptions

For the energy savings calculation, the occupancy sensor controls three 2-lamp T8 fixtures with 32-watt electronic ballast (for a total of 58 watts per fixture). The operating hour and interactive effect factor assumptions are taken from DEER 2008. The occupancy sensor savings assumes 20% time off value for all controlled spaces.[110] Savings are calculated using the following equations.

$$Energy\ Savings\ (kWh) = \frac{(controlled\ wattage) \times (annual\ operating\ hours) \times (energy\ \text{int}\ eractive\ effect) \times (20\%}{1{,}000W\ /\ kW}$$

$$Demand\ Savings\ (kW) = \frac{(controlled\ wattage) \times (coincident\ diversity\ factor) \times (demand\ \text{int}\ eractive\ effect) \times (20\%)}{1{,}000W\ /\ kW}$$

Savings

Table 146. Occupancy Sensor Savings

[110] SCE Workpaper WPSCNRLG0025.1 – Occupancy Sensors: Wall or Ceiling Mounted

Supporting Documents for Total Output Emission Rate Specific to Power Supplier (0.4503)

PROPOSED ANNUAL REPORT TO THE CALIFORNIA ENERGY COMMISSION:

Power Source Disclosure Program

For Year ending: 12/31/2013

GENERAL INSTRUCTIONS

Company Name
City of Anaheim

Fill out the schedules that apply to your company's filing requirements. Please print, sign the attestation, scan and e-mail or mail the attestation to the address shown below.

California Energy Commission
1516 9th St. MS-45
Sacramento, CA 95814
e-mail: <kevin.chou@energy.ca.gov>

If you have questions, contact Kevin Chou at (916) 653-1628 or <kevin.chou@energy.ca.gov>.

NOTE: Information submitted in this report is not automatically held confidential. If your company wishes the information you submit to be held in confidence, it will be necessary to submit an application for confidentiality.

Retail Carbon Emissions Factor for CY 2012 : 0.4503 mtCO2e/MWh

** Calculation based on the fields in blue.
From the CEC RPS Report

Facility Name	Unit Number	Fuel Type	Location (State)[1]	CEC RPS Certification Number[2]	WREGIS ID Number[3]	EIA ID Number[4]	CEC Plant ID Number[5]	QF ID Number[6]	Gross kWh Purchased or Generated	kWh Resold or Self-Consumed	Net kWh Procured	CARB EF	Emissions EF * (Net kWh/1000)
Anaheim CTG		Natural Gas	CA			7693	G0026		93,136,824	33,115,037	60,021,787	0.55	33011.98284
Canyon Power Plant	1, 2, 3, 4	Natural Gas	CA			57027	G0058		105,626,889	37555911.58	68,070,978	0.55	37439.03777
San Juan	4	Coal	NM			2451			305,556,250	205,872,763	99,683,487	1.06	105664.4958
Intermountain Power (IPP)	1 & 2	Coal	UT			6481	C0023		1,424,498,800	700,947,113	723,551,687	0.91	658432.0351
Hoover Dam		Hydro	NV			154			44,098,000	-	44,098,000	0	0
Magnolia Power Project		Natural Gas	CA			56046	G0329		447,360,070	159,060,021	288,300,049	0.38	109554.0186
High Winds (PPM)		Wind	CA	60726A	W229	56075	W0355		13,663,000		13,663,000	0	0
Pleasant Valley**		Wind	WY	61559A	W236	56093			77,461,000		77,461,000	0	0
Second Imperial Geothermal Co SIGC Plant (Ormat)		Geothermal	CA	60682A	W792	54111	T0051		60,785,000		60,785,000	0	0
Ridgewood Olinda		Landfill Gas	CA	60281A	W1490	10648	E0109		2,249,000		2,249,000	0	0
Ridgewood Olinda Expansion		Landfill Gas	CA	60895A	W2806	58007	E0249		168,901,000		168,901,000	0	0
MWD Small Hydro (CENTER2PHONDO))		Small Hydro	CA	60623A	W470	482	H0412		761,000		761,000	0	0
MWD Small Hydro (OLINDA2COYCRK)		Small Hydro	CA	60624A	W469	483	H0119		8,128,000		8,128,000	0	0
MWD Small Hydro (VILLPK2VALLYV)		Small Hydro	CA	60626A	W472	487	H0539		4,728,000		4,728,000	0	0
MWD Small Hydro (VALLEY_5_PERRIS)		Small Hydro	CA	60619A	W474	481	H0382		1,000		1,000	0	0
Thermo No.1 LLC (Raser)**		Geothermal	UT	60651A	W1312				47,889,000		47,889,000	0	0
Anaheim Distributed Solar 1		REC Only	CA	62509R	W2655				414,000		414,000	0	0
Anaheim Distributed Solar 2		REC Only	CA	62510R	W2657				424,000		424,000	0	0
Anaheim Distributed Solar 3		REC Only	CA	62511R	W2658				425,000		425,000	0	0
Anaheim Distributed Solar 4		REC Only	CA	62512R	W2660				437,000		437,000	0	0
Anaheim Distributed Solar 5		REC Only	CA	62513R	W2661				307,000		307,000	0	0
San Gorgonio Wind Farm		Wind	CA	60371A	W315				71,234,000		71,234,000	0	0
San Gorgonio Wind Farm		Wind	CA	60398A	W316				7,743,000		7,743,000	0	0
City of Santa Clara (Geothermal 1, Unit 1)	1	Geothermal	CA	60908A	W1254				31,590,000		31,590,000	0	0
City of Santa Clara (Geothermal 1, Unit 2)	2	Geothermal	CA	60909A	W1255				74,069,000		74,069,000	0	0
City of Santa Clara (Geothermal 2, Unit 4)	4	Geothermal	CA	60911A	W1257				110,161,000		110,161,000	0	0
PowerEx (Harvest Wind)		Wind	WA	60857A	W1306				3,965,000		3,965,000	0	0
PowerEx (Quality Wind)		Wind	Tumbler Ri	62247A	W3160				60,213,486		60,213,486	0	0
Pacificorp (Campbell Hill - Three Buttes)		Wind	WY	61017A	W1383				2,518,000		2,518,000	0	0
Pacificorp (Dunlap I)		Wind	WY	61188A	W1687				2,887,000		2,887,000	0	0
Pacificorp (Glenrock I)		Wind	WY	60805A	W964				2,512,000		2,512,000	0	0
Pacificorp (Glenrock III)		Wind	WY	60804A	W965				964,000		964,000	0	0
Pacificorp (Goodnoe Hills)		Wind	WA	60819A	W536				1,271,000		1,271,000	0	0
Pacificorp (High Plains)		Wind	WY	60899A	W1334				2,431,000		2,431,000	0	0
Pacificorp (Leaning Juniper)		Wind	OR	60562A	W200				1,314,000		1,314,000	0	0
Pacificorp (Marengo)		Wind	WA	60729A	W185				2,312,000		2,312,000	0	0
Pacificorp (Marengo II)		Wind	WA	60730A	W772				1,156,000		1,156,000	0	0
Pacificorp (McFadden Ridge)		Wind	WY	60896A	W1341				651,000		651,000	0	0
Pacificorp (Rolling Hills)		Wind	WY	60806A	W928				2,341,000		2,341,000	0	0
Pacificorp (Seven Mile Hill I)		Wind	WY	60807A	W975				2,765,000		2,765,000	0	0
Pacificorp (Seven Mile Hill II)		Wind	WY	60808A	W976				544,000		544,000	0	0
Pacificorp (Top of the World)		Wind	WY	61199A	W1749				5,388,000		5,388,000	0	0
Pacificorp (Wolverine Creek)		Wind	ID	60564A	W188				946,000		946,000	0	0
Unspecified Purchases (Generic Purchases from the Market)		Unspecified	Mix	NA	NA				502,254,330	178,577,816	323,676,514	0.4281	138565.9156

Unit Type	Total MWh for Unit Type	Total Emissions for Unit Type	Emissions Factor for Unit Type
Natural Gas	416,393	180,005	0.432
Coal	823,235	764,097	0.928
Unspecified	323,676.51	138,566	0.428

	Net Purchases (kWh)	Pro-Rata Net Purchases based on Retail Sales (kWh)	Percent of Total Retail Sales (kWh)	EF for Unit Type	Retail MWh	Emissions mmtCO2e
Specific Purchases						
Renewable	775,547,486	775,547,486	33%	-	775,547.49	-
Biomass	171,150,000	171,150,000	7%			
Geother	324,494,000	324,494,000	14%			
Eligible T	13,617,000	13,617,000	1%			
Solar ele	2,007,000	2,007,000	0%			
Wind	264,279,486	264,279,486	11%			
Other						
Coal	823,235,174	801,221,137	34%	0.928	801,221.14	743,664
Large hydro	44,098,000	42,918,780	2%	-	42,918.78	-
Natural Gas	416,392,814	405,258,102	17%	0.432	405,258.10	175,192
Nuclear		-	0%	-	-	-
Other		-	0%	-	-	-
Total Specific Purchases	**2,059,273,473**	**##########**	**87%**			
Unspecified Power (kWh)	**323,676,514**	**315,021,118**	**13%**	0.428	315,021.12	134,861
Total	**2,382,949,987**	**##########**	**100%**		2,339,966.62	1,053,716
Total Reta	**2,339,966,622**	**Please ensure that Total Purcases equal Total Retail Sales**				

0.450312 mtCO2e/MWh

Supporting Documents for Total Energy Saved (lighting project)

Pre & Post Installation Inspections are Required to Qualify for Rebate

Customer Rebate Application Package	
Required Documents	Check with an "X"
Lighting Incentive Application	
Customized Incentive Application	
Excel Application Emailed	
Incentive Form (Signed & Dated)	
Signed Proposal/Contract	
Product(s) Specs	
Savings & Incentive Calcs	
Signed W-9 Tax Form	
Signed 590 Tax Form	
Final PAID Invoice with Proof	

Pre- Inspection: Date: _____

Post- Inspection: Date: _____

Application Issue Date:	12/12/2014	Exp. Date:	2/10/2015

Customer's Information: Fill Out Yellow Highlighted Areas				Facility Type:	
Account number:					
Account Name:				**Hours/Day:**	13
Business Name:	Dad Miller			**Days/Week:**	7
Customer Contact:	Thad Kintigh			**Weeks/Year:**	52
Title:	Golf Course Superintendent			**Annual Hours:**	4,732
Phone Number	714.637.06683	Extension:		**Total Sq Ft:**	
Installation Address:	430 N. Gilbert St			**Conditioned:**	
City/State/Zip	Anaheim	CA	9280	**kW (Peak):**	
Customer's Email				**Year Built:**	
Federal Tax I.D./SS#					
Federal Tax I.D./SS# Name					
Rate Schedule:	MS				

Customer's Mailing Address for Rebate Check: If Different from Installation Address					
The Rebate Check Will Be Sent Directly to the Customer, No 3rd Party Checks Will Be Issued					
Name of Payee:					
Mailing Address:					
City:		State:		Zip:	

Vendor/ Contractor Information:			
Company's Name:			
Address:			
Contact Name:			
Contractor's License #:			
Office Phone #:		**Wireless #:**	
Fax #:		**Email:**	

FOR DEPARTMENT USE ONLY			
	CI Cpn#	14150020	Customized Incentive
	Lgt Cpn#	14150010	Lighting

LIGHTING WORKSHEET

ANAHEIM PUBLIC UTILITIES

LIGHTING PROJECT WORKSHEET

Anaheim - Rebate Programs July 1, 2014 - June, 30 2015

Customer Name:	0			Vendor Company:	0
Business Name:	Dad Miller	x	Controlled by Sensor	Contact Name:	0
Account Number:	0 0			Office Phone #:	0
Contact Name:	Thad Kintigh		Pre-I Date:	Wireless #:	0
Phone Number	714.637.06683		Post-I Date:	Work Fax:	0
Installation Address:	430 N. Gilbert St 9280				
Federal Tax I.D.	0		E Existing Sensor		
Rate Schedule:	MS		D Dimmer control		
			x Add Sensor		
			DLH Daylighting Harvesting		

Space/ Location	Motion Sensor	Existing Fixture Type	Watts/ Fixt.	No. Fixtures	Hours/ Day	Days/ wk	Hrs/ year	Exist. kW	Exist. kWh	New Fixture Type	Watts/ Fixt.	No. Fixtures	New kW	New kWh	kW Saved	kWh Saved
430 Bldg.																
Shop Bldg.																
Main Shop Track		40W Inca.	40	32	14	7	5,096	1.3	6,523	7W LED	7	32.00	0.2	1,142	1.1	5,381
Main Shop cans		40W Inca.	40	19	14	7	5,096	0.8	3,873	7W LED	7	19.00	0.1	678	0.6	3,195
Hall		40W Inca.	40	1	6	7	2,184	0.0	87	7W LED	7	1.00	0.0	15	0.0	72
Golf Rm	x	1x4x2T12 w/ T8 Bal.	60	2	14	7	5,096	0.1	612	40W LED	7	2.00	0.0	71	0.1	540
Storage		75W Inca.	75	1	4	7	1,456	0.1	109	10W LED	10	1.00	0.0	15	0.1	95
Office	x	2x4x2T12F40(34W)/std	82	2	14	7	5,096	0.2	836	40W LED Troffer	40	2.00	0.1	408	0.1	428
Exterior Hall																
Hall		14W CFL	14	1	8	7	2,912	0.0	41	7W LED	7	1.00	0.0	20	0.0	20
Men's RRm		27W CFL	27	3	14	7	5,096	0.1	413	15W LED	15	3.00	0.0	229	0.0	183
Men's RRm		1x4x2T8F032/elec	59	4	14	7	5,096	0.2	1,192	40W LED Troffer	40	4.00	0.2	815	0.1	377
Women's RRm		27W CFL	27	3	14	7	5,096	0.1	413	15W LED	15	3.00	0.0	229	0.0	183
Women's RRm		1x4x2T8F032/elec	59	4	14	7	5,096	0.2	1,192	40W LED Troffer	40	4.00	0.2	815	0.1	377
Cafe Bldg.																
West RRm Men	E	2x4x4T8F032/elec	110	1	6	7	2,184	0.1	240	50W LED Troffer	50	1.00	0.1	109	0.1	131
West RRm Women	E	2x4x4T8F032/elec	110	1	6	7	2,184	0.1	240	50W LED Troffer	50	1.00	0.1	109	0.1	131
South RRm Women	E	2x4x4T8F032/elec	110	1	3	7	1,092	0.1	120	50W LED Troffer	50	1.00	0.1	55	0.1	66
South RRm Men	E	2x4x4T8F032/elec	110	1	3	7	1,092	0.1	120	50W LED Troffer	50	1.00	0.1	55	0.1	66
Dining Area																
Bar Area		65W Flood	65	8	14	7	5,096	0.5	2,650	9W LED	9	8.00	0.1	367	0.4	2,283
Dining Area		65W Flood	65	13	14	7	5,096	0.8	4,306	9W LED	9	13.00	0.1	596	0.7	3,710
Chandelier	D	40W Inca. x 15	40	15	6	7	2,184	0.60	1,310	7W LED	7.00	15.00	0.1	229	0.50	1,081
Banquet Area average use 4 times per month																
Ceiling	D	45W Inca.	45	17	10	2	1,040	0.8	796	7W LED	7	17.00	0.1	124	0.6	672
Sconces	D	45W Inca.	45	1	10	2	1,040	0.0	47	7W LED	7	1.00	0.0	7	0.0	40
Sconces	D	14W CFL	14	2	10	2	1,040	0.0	29	7W LED	7	2.00	0.0	15	0.0	15
Chandelier	D	45W Inca.	45	120	10	2	1,040	5.4	5,616	7W LED	7	120.00	0.8	874	4.6	4,742
Back Cashier		14W CFL	14	3	6	7	2,184	0.0	92	7W LED	7	3.00	0.0	46	0.0	46

LIGHTING WORKSHEET

ANAHEIM PUBLIC UTILITIES

LIGHTING PROJECT WORKSHEET

Anaheim - Rebate Programs July 1, 2014 - June, 30 2015

Customer Name:	0			Vendor Company:	0
Business Name:	Dad Miller	x	Controlled by Sensor	Contact Name:	0
Account Number:	0 0			Office Phone #:	0
Contact Name:	Thad Kintigh		Pre-I Date:	Wireless #:	0
Phone Number	714.637.06683		Post-I Date:	Work Fax:	0
Installation Address:	430 N. Gilbert St 9280				
Federal Tax I.D.	0		E Existing Sensor		
Rate Schedule:	MS		D Dimmer control		
			x Add Sensor		
			DLH Daylighting Harvesting		

Space/ Location	Motion Sensor	Existing Fixture Type	Watts/ Fixt.	No. Fixtures	Hours/ Day	Days/ wk	Hrs/ year	Exist. kW	Exist. kWh	New Fixture Type	Watts/ Fixt.	No. Fixtures	New kW	New kWh	kW Saved	kWh Saved
Back Cashier		65W Flood	65	3	6	7	2,184	0.2	426	9W LED	9	3.00	0.0	59	0.2	367
Storage	x	1x4x2T8F032/elec	59	2	10	7	3,640	0.1	426	40W LED Troffer	40	2.00	0.1	291	0.0	135
Janitorial		65W Flood	65	1	5	7	1,820	0.1	118	9W LED	9	1.00	0.0	16	0.1	102
Kitchen Area																
Liquor Rm	x	20W CFL	20	1	14	7	5,096	0.0	102	12W LED	12	1.00	0.0	61	0.0	41
Storage	x	20W CFL	20	1	14	7	5,096	0.0	102	12W LED	12	1.00	0.0	61	0.0	41
Dishwasher Area		2x4x4T8F032/elec	110	2	14	7	5,096	0.2	1,121	50W LED Troffer	50	2.00	0.1	510	0.1	612
Kitchen Area		2x4x4T8F032/elec	110	8	14	7	5,096	0.9	4,484	50W LED Troffer	50	8.00	0.4	2,038	0.5	2,446
Kitchen Area		14W CFL	14	1	14	7	5,096	0.0	71	7W LED	7	1.00	0.0	36	0.0	36
Kitchen Hood		75W Inca.	75	3	14	7	5,096	0.2	1,147	10W LED	10	3.00	0.0	153	0.2	994
Supplies Rm	x	2x4x4T8F032/elec	110	2	14	7	5,096	0.2	1,121	50W LED Troffer	50	2.00	0.1	510	0.1	612
Office	x	2x4x4T8F032/elec	110	4	10	7	3,640	0.4	1,602	50W LED Troffer	50	4.00	0.2	728	0.2	874
Supplies Rm	x	2x4x4T8F032/elec	110	2	14	7	5,096	0.2	1,121	50W LED Troffer	50	2.00	0.1	510	0.1	612
Window Cashier		2x4x4T8F032/elec	110	1	10	7	3,640	0.1	400	50W LED Troffer	50	1.00	0.1	182	0.1	218
Beer WIC		45W Inca.	45	1	4	7	1,456	0.0	66	7W LED	7	1.00	0.0	10	0.0	55
WIC/WIF		14W CFL	14	2	4	7	1,456	0.0	41	7W LED	7	2.00	0.0	20	0.0	20
Cart Charging Basement																
Entrance Area		100W HPS	138	4	24	7	8,736	0.6	4,822	30W LED	30	4.00	0.1	1,048	0.4	3,774
Cart Area		(2)1x4x1T12F40(34W)	82	20	14	7	5,096	1.6	8,357	40W LED Troffer	40	20.00	0.8	4,077	0.8	4,281
Cart Area		1x4x2T12F40(34W)	82	4	14	7	5,096	0.3	1,671	40W LED Troffer	40	4.00	0.2	815	0.2	856
Storage		1x4x2T12F40(34W)	82	2	3	7	1,092	0.2	179	40W LED Troffer	40	2.00	0.1	87	0.1	92
							-	-	-				-	-	-	-
449 Range																
Club House																
Storage	x	1x4x2T8F032/elec	59	4	5	7	1,820	0.2	426	40W LED Troffer	40	4.00	0.2	291	0.1	135
Front Area	x	2x4x3T8F032/elec	89	3	5	7	1,820	0.3	485	40W LED Troffer	40	3.00	0.1	218	0.1	267
Men's RRm		2x4x3T8F032/elec	89	1	5	7	1,820	0.1	162	40W LED Troffer	40	1.00	0.0	73	0.0	89
Women's RRm		2x4x3T8F032/elec	89	1	5	7	1,820	0.1	162	40W LED Troffer	40	1.00	0.0	73	0.0	89

LIGHTING WORKSHEET

ANAHEIM PUBLIC UTILITIES

LIGHTING PROJECT WORKSHEET

Anaheim - Rebate Programs July 1, 2014 - June, 30 2015

Customer Name:	0			Vendor Company:	0
Business Name:	Dad Miller	x	Controlled by Sensor	Contact Name:	0
Account Number:	0 0			Office Phone #:	0
Contact Name:	Thad Kintigh		Pre-I Date:	Wireless #:	0
Phone Number	714.637.06683		Post-I Date:	Work Fax:	0
Installation Address:	430 N. Gilbert St 9280				
Federal Tax I.D.	0	E	Existing Sensor		
Rate Schedule:	MS	D	Dimmer control		
		x	Add Sensor		
		DLH	Daylighting Harvesting		

Space/ Location	Motion Sensor	Existing Fixture Type	Watts/ Fixt.	No. Fixtures	Hours/ Day	Days/ wk	Hrs/ year	Exist. kW	Exist. kWh	New Fixture Type	Watts/ Fixt.	No. Fixtures	New kW	New kWh	kW Saved	kWh Saved
Indoor Total				328				17.9	59,470			328	5.0	18,891	13	40,579
Outdoors (Off Peak)																
Space/ Location	Motion Sensor	Existing Fixture Type	Watts/ Fixt.	No. Fixtures	Hours/ Day	Days/ wk	Hrs/ year	Exist. kW	Exist. kWh	New Fixture Type	Watts/ Fixt.	No. Fixtures	New kW	New kWh	kW Saved	kWh Saved
430 Bldg.																
Parking Lot		250W HPS x 2 x 3 units	295	6.00	11.00	7.00	4,004	1.77	7,087	85W LED Fixture	85.00	6.00	0.5	2,042	1.26	5,045
Parking Lot		250W HPS x 1 units	295	6.00	11.00	7.00	4,004	1.77	7,087	85W LED Fixture	85.00	6.00	0.5	2,042	1.26	5,045
Golf Shop Bldg.																
Main Entrance		14W CFL	14	15.00	11.00	7.00	4,004	0.21	841	7W LED	7.00	15.00	0.1	420	0.11	420
Wall Sconces		14W CFL	14	1.00	11.00	7.00	4,004	0.01	56	7W LED	7.00	1.00	0.0	28	0.01	28
Exterior Wall		250W MH	245	2.00	11.00	7.00	4,004	0.49	1,962	85W LEED Fixture	85.00	2.00	0.2	681	0.32	1,281
Land Scape		28W CFL	28	2.00	11.00	7.00	4,004	0.06	224	15W LED	15.00	2.00	0.0	120	0.03	104
Entrance Stairs Pole		75W HPS	95	5.00	11.00	7.00	4,004	0.48	1,902	30W LED	30.00	5.00	0.2	601	0.33	1,301
Café Bldg.																
Wall Sconces		14W CFL	14	6.00	11.00	7.00	4,004	0.08	336	7W LED	7.00	6.00	0.0	168	0.04	168
West Wall		32 W Circ. Flour.	35	1.00	11.00	7.00	4,004	0.04	140	15W LED Fixture	15.00	1.00	0.0	60	0.02	80
Exterior Ceiling		28W CFL	28	2.00	6.00	7.00	2,184	0.06	122	15W LED	15.00	2.00	0.0	66	0.03	57
Exterior Ceiling		75W Flood	75	4.00	6.00	7.00	2,184	0.30	655	10W LED	10.00	4.00	0.0	87	0.26	568
Exterior Dining		28W CFL	28	26.00	6.00	7.00	2,184	0.73	1,590	15W LED	15.00	26.00	0.4	852	0.34	738
Exterior Dining		75W Inca.	75	7.00	6.00	7.00	2,184	0.53	1,147	10W LED	10.00	7.00	0.1	153	0.46	994
Cart drive way																
2Ft Pole		75W HPS	95	9.00	11.00	7.00	4,004	0.86	3,423	30W LED	30.00	9.00	0.3	1,081	0.59	2,342
							-	-	-				-	-	-	-
449 Range																
Front of Range Pole 1		1500W MH x 7 units	1,610	7.00	3.00	7.00	1,092	11.27	12,307	Estimated Fixture	1,046.50	7.00	7.3	7,999	3.94	4,307
Front of Range Pole 2		1500W MH x 5 units	1,610	5.00	3.00	7.00	1,092	8.05	8,791	Estimated Fixture	1,046.50	5.00	5.2	5,714	2.82	3,077
Northside Pole 3-5		1500W MH x 3 units x3	1,610	9.00	3.00	7.00	1,092	14.49	15,823	Estimated Fixture	1,046.50	9.00	9.4	10,285	5.07	5,538
Southside Pole 6-8		1500W MH x 3 units x3	1,610	9.00	3.00	7.00	1,092	14.49	15,823	Estimated Fixture	1,046.50	9.00	9.4	10,285	5.07	5,538

LIGHTING WORKSHEET

ANAHEIM PUBLIC UTILITIES

LIGHTING PROJECT WORKSHEET

Anaheim - Rebate Programs July 1, 2014 - June, 30 2015

Customer Name:	0			Vendor Company:	0
Business Name:	Dad Miller	x	Controlled by Sensor	Contact Name:	0
Account Number:	0 0			Office Phone #:	0
Contact Name:	Thad Kintigh		Pre-I Date:	Wireless #:	0
Phone Number	714.637.06683		Post-I Date:	Work Fax:	0
Installation Address:	430 N. Gilbert St 9280				
Federal Tax I.D.	0		E	Existing Sensor	
Rate Schedule:	MS		D	Dimmer control	
			x	Add Sensor	
			DLH	Daylighting Harvesting	

Space/ Location	Motion Sensor	Existing Fixture Type	Watts/ Fixt.	No. Fixtures	Hours/ Day	Days/ wk	Hrs/ year	Exist. kW	Exist. kWh	New Fixture Type	Watts/ Fixt.	No. Fixtures	New kW	New kWh	kW Saved	kWh Saved
Outdoor Total				122				56	79,317			122	33.7	42,684	22	36,633
In / Outdoor Total				450				73.6	138,787			450	38.8	61,575	35	77,212

LIGHTING REBATE		Sensors/Photo Cell REBATE IF APPLICABLE			
Annual kW Savings	12.90				*Peak (Indoor)*
Annual kWh Savings	77,211.81			3,149	*Peak + Off Peak (Indoor + Outdoor)*
kW Incentive	$ 2,580.30	25%	of kWh	787	*kW Savings x $ 200*
kWh Incentive	$ 5,790.89	$		59.05	*kWh Savings x $ 0.075*
Project Cost	$ -	$		-	*Sum Of The Invoices*
Max. Incentive	$ 5,790.89	$		50,000.00	*Max. Compared w/ Invoices $ 50,000*
Incen. Based on Usage	$ 5,790.89	$		-	*Maximum of kW & kWh Incentives (Peak Time) + Outdoor kWh Savings x $0.075*
Final Rebate	$ -	$		-	*Rebates are based on (Greater of kW or kWh savings) , Max Incentive $50,000 or 50% of Project Cost*

Invoice Amounts	Date Paid
Total Project Cost:	$ -

Sample Final Rebate calculations if:

Max Incentive	(50%) Project Cost		Energy Rebate	Final Rebate	
$ 50,000.00	$ 70,000.00		$ 23,000.00	$ 23,000.00	Based on energy savings
$ 50,000.00	$ 88,000.00		$ 70,000.00	$ 44,000.00	Based on 50% Project cost
$ 50,000.00	$ 120,000.00		$ 80,000.00	$ 50,000.00	Based on Max Incentive

Note: For estimate purposes it is assumed that the scope of work is 100% as stated above; however, if the scope of work changes this will result in a lower or higher Rebate based on the changes made. The Final Rebate will be based on the final inspection, final installed equipment and final "Paid Invoice".