

# NOTICE OF MEETING

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OF THE  
**ENGINEERING, OPERATIONS,  
AND BIOSOLIDS MANAGEMENT  
COMMITTEE**

OF THE  
BOARD OF DIRECTORS  
OF THE



IS SCHEDULED FOR  
**WEDNESDAY, DECEMBER 9, 2015**  
**10:00 A.M.**

*Or immediately following the  
Public, Legislative Affairs, and Water Resources  
Committee Meeting*

AT THE ADMINISTRATION HEADQUARTERS  
6075 Kimball Avenue, Building A  
Chino, CA 91708



**ENGINEERING, OPERATIONS, AND  
BIOSOLIDS MANAGEMENT  
COMMITTEE MEETING  
OF THE BOARD OF DIRECTORS  
INLAND EMPIRE UTILITIES AGENCY\*  
AGENCY HEADQUARTERS, CHINO, CALIFORNIA**

**WEDNESDAY, DECEMBER 9, 2015  
10:00 A.M.**

*Or immediately following the  
Public, Legislative Affairs, and Water Resources  
Committee Meeting*

**CALL TO ORDER**

**PUBLIC COMMENT**

Members of the public may address the Board on any item that is within the jurisdiction of the Board; however, no action may be taken on any item not appearing on the agenda unless the action is otherwise authorized by Subdivision (b) of Section 54954.2 of the Government Code. Those persons wishing to address the Board on any matter, whether or not it appears on the agenda, are requested to complete and submit to the Board Secretary a "Request to Speak" form which is available on the table in the Board Room. Comments will be limited to five minutes per speaker. Thank you.

**ADDITIONS TO THE AGENDA**

In accordance with Section 54954.2 of the Government Code (Brown Act), additions to the agenda require two-thirds vote of the legislative body, or, if less than two-thirds of the members are present, a unanimous vote of those members present, that there is a need to take immediate action and that the need for action came to the attention of the local agency subsequent to the agenda being posted.

**1. ACTION ITEMS**

**A. MINUTES**

The Committee will be asked to approve the Engineering, Operations, and Biosolids Management Committee meeting minutes from the November 11, 2015, meeting.

**B. CONSTRUCTION CONTRACT AWARD FOR THE FIBER OPTIC PULL BOX UPGRADES**

It is recommended that the Committee/Board:

1. Approve the construction contract award for the Fiber Optic Pull Box Upgrades, Project No. EN15030.02, to J.F. Shea Construction, Inc.

in the amount of \$248,500; and

2. Authorize the General Manager to execute the contract.

**C. ON-CALL CONSTRUCTION SURVEYING AND ENGINEERING RELATED SERVICES CONTRACT AMENDMENT**

It is recommended that the Committee/Board:

1. Approve a contract amendment with CASC Engineering and Consulting (CASC) for on-call surveying and engineering related services for a one-year contract extension through January 1, 2017, for an additional amount of \$250,000 to the original contract; and
2. Authorize the General Manager to execute the contract amendment.

**D. ENERGY MANAGEMENT PLAN (EMP)**

It is recommended that the Committee/Board concur with the findings of the EMP.

**2. INFORMATION ITEM**

**A. RP-1 & RP-5 PROJECT DESIGN REPORT REQUEST FOR PROPOSAL UPDATE (ORAL)**

**RECEIVE AND FILE INFORMATION ITEM**

**B. ENGINEERING AND CONSTRUCTION MANAGEMENT MONTHLY UPDATE (POWERPOINT)**

**3. GENERAL MANAGER'S COMMENTS**

**4. COMMITTEE MEMBER COMMENTS**

**5. COMMITTEE MEMBER REQUESTED FUTURE AGENDA ITEMS**

**6. ADJOURN**

\*A Municipal Water District

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Board Secretary (909-993-1736), 48 hours prior to the scheduled meeting so that the Agency can make reasonable arrangements.

Proofed by: SK

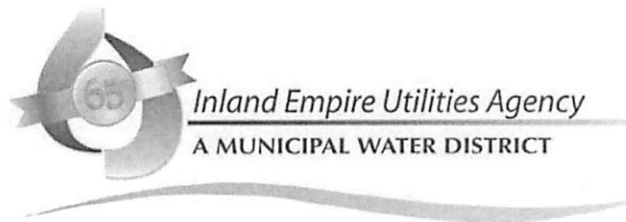
**DECLARATION OF POSTING**

I, April Woodruff, Board Secretary of the Inland Empire Utilities Agency, A Municipal Water District, hereby certify that a copy of the agenda has been posted by 5:30 p.m. in the foyer at the Agency's main office, 6075 Kimball Ave., Building A, Chino, CA on Thursday, December 3, 2015.

  
April Woodruff

**ACTION  
ITEM  
1A**





## MINUTES

### ENGINEERING, OPERATIONS, AND BIOSOLIDS MANAGEMENT COMMITTEE MEETING INLAND EMPIRE UTILITIES AGENCY\* AGENCY HEADQUARTERS, CHINO, CA

WEDNESDAY, NOVEMBER 11, 2015  
10:00 A.M.

#### COMMITTEE MEMBERS PRESENT

Michael Camacho, Chair  
Terry Catlin

#### STAFF PRESENT

Jasmin A. Hall, Director  
P. Joseph Grindstaff, General Manager  
Chris Berch, Executive Manager of Engineering/AGM  
Martha Davis, Executive Manager of Policy Development/AGM  
Christina Valencia, Chief Financial Officer/AGM  
Ernest Yeboah, Executive Manager of Operations/AGM  
Francis Concemino, Deputy Manager of Maintenance  
Connie Gibson, Executive Assistant  
Bill Leever, Groundwater Recharge Coordinator  
Nasrin Maleki, Senior Engineer  
Matthew Melendrez, Deputy Manager of Operations  
Shaun Stone, Manager of Engineering  
Kenneth Tuliau, Manager of Maintenance  
Teresa Velarde, Manager of Internal Audit  
April Woodruff, Board Secretary/Office Manager  
Jamal Zughbi, Senior Engineer/Project Manager, P.E

#### OTHERS PRESENT

None

The meeting was called to order at 10:02 a.m. There were no public comments received or additions to the agenda.

#### ACTION ITEMS

The Committee:

- ◆ Approved the Engineering, Operations, and Biosolids Management Committee meeting minutes of September 9, 2015.
- ◆ Recommended that the Board:
  1. Approve the Purchase and Sale Agreement with SLPR, LLC for the East Declerz property; and

2. Authorize the General Manager to execute the agreement;

as an Consent Calendar Item on the November 18, 2015 Board meeting agenda.

◆ Recommended that the Board:

1. Approve the Term Sheet between Inland Empire Utilities Agency (IEUA) and JCSD for the development of a RW Interconnection; and
2. Authorize the General Manager to make non-substantive changes and execute the final Term Sheet;

as an Consent Calendar Item on the November 18, 2015 Board meeting agenda.

◆ Recommended that the Board:

1. Approve the commissioning contract award to Heery International, Inc. for the Lab, Project No. EN15008, for the not-to-exceed amount of \$59,884; and
2. Authorize the General Manager to execute the contract;

as a Consent Calendar Item on the November 18, 2015 Board meeting agenda.

◆ Recommended that the Board:

1. Approve the consulting engineering services contract award for the design efforts for the RP-1 Mixed Liquor Return Pumps, Project No. EN16024, to the most qualified consultant, for the not-to-exceed amount of \$424,198; and
2. Authorize the General Manager to execute the contract;

as a Consent Calendar Item on the November 18, 2015 Board meeting agenda.

### **INFORMATION ITEMS**

The following information items were presented or received and filed by the Committee:

- ◆ 1<sup>st</sup> Quarter Planning and Environmental Compliance Update
- ◆ El Nino Preparation
- ◆ Engineering and Construction Management Monthly Update
- ◆ Recycled Water Annual Report

### **GENERAL MANAGER'S COMMENTS**

General Manager Joseph Grindstaff mentioned that he will not be at the November 18, IEUA Board meeting. He was asked to meet with Ms. Felicia Marcus, Chair - State Water Resources Control Board in Sacramento. Mr. Grindstaff stated that while in Sacramento, he will also be meeting with the Department of Water Resources to discuss water treatments and what would be needed to transfer water in a wet year.

**COMMITTEE MEMBER COMMENTS**

President Catlin noted the great press article regarding the Tesla Batteries project.

**COMMITTEE MEMBER REQUESTED FUTURE AGENDA ITEMS**

There were no Committee Member requested future agenda items.

With no further business, Director Camacho adjourned the meeting at 10:50 a.m., in honor of the active duty military and military members whom have given their lives in the past, and to all of our veterans.

Respectfully submitted,

April Woodruff  
Board Secretary/Office Manager

\*A Municipal Water District

**APPROVED: DECEMBER 9, 2015**

**ACTION  
ITEM  
1B**





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Date: December 16, 2015

To: The Honorable Board of Directors

Through: Engineering, Operations, and Biosolids Management Committee (12/09/15)  
Finance, Legal, and Administration Committee (12/09/15)

From: *for* P. Joseph Grindstaff *for*  
General Manager

Submitted by: *for* Chris Berch *for*  
Executive Manager of Engineering/Assistant General Manager

*for* Shaun J. Stone *for*  
Manager of Engineering

Subject: Construction Contract Award for the Fiber Optic Pull Box Upgrades

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### **RECOMMENDATION**

It is recommended that the Board of Directors:

1. Approve the construction contract award for the Fiber Optic Pull Box Upgrades, Project No. EN15030.02, to J.F. Shea Construction, Inc. in the amount of \$248,500; and
2. Authorize the General Manager to execute the contract.

### **BACKGROUND**

In 2008, the Agency constructed the San Bernardino Lift Station in coordination with the City of Fontana to convey the sewer flows to Regional Plant No. 4 (RP-4). As part of this project, fiber optic lines and pull boxes were installed between the pump station and RP-4 to complete the communications system. The fiber optic pull boxes were constructed in the City of Rancho Cucamonga and San Bernardino County right-of-way. Recently, several of the fiber optic pull boxes have either failed or are showing signs of deteriorated condition. Staff investigated the cause of the deteriorated condition of these pull boxes and determined that the installation of the access manholes did not meet the traffic loading. The Agency developed this project to ensure that all of the pull boxes along this alignment reliably meet the current traffic load conditions.

On October 21, 2015, Agency staff advertised the subject project for construction to the Pre-Qualified Contractors. On November 19, 2015, the following bid was received:

<b>Bidder's Name</b>	<b>Bid Amount for EN15030.02</b>
J. F. Shea Construction, Inc.	\$248,500
Engineer's Estimate	\$360,000

The following is the projected project cost:

<b>Project Phase</b>	<b>Total Cost for EN15030.02</b>
Design (In house design )	\$50,000
Construction	\$248,500
Construction Management (IEUA and Labor Augmentation)	\$50,000
Construction Contingency (~20%)	\$60,000
<b>Total Project Cost</b>	<b>\$408,500</b>

The following is the project schedule:

<b>Project Phase</b>	<b>Date</b>
Construction Contract Award	December 2015
Construction Completion	June 2016

This project is part of the Agency's Wastewater Management Capacity Business Goal to maintain capacity within facilities to meet essential service demands and to protect public health and the environment.

**PRIOR BOARD ACTION**

None

**IMPACT ON BUDGET**

The award of the construction contract for the Fiber Optic Pull Box Upgrades, Project No. EN15030.02, for the not-to-exceed amount of \$248,500 in the Regional Wastewater Capital (RC) Fund is within the Fiscal Year 2015/16 budget of \$613,075 and the total project budget of \$680,000.

PJG:CB:SS:nm



# Fiber Optic Pull Box Upgrades Construction Contract Award

Project No. EN15030.02  
December 2015



Shaun J. Stone, P.E.  
Manager of Engineering

Nasrin Maleki, P.E.  
Project Manager



# Project Background

- 23 fiber optic pull boxes installed in 2008
- 3 manhole failures have occurred within the public right of way
- Safety and liability concerns require prompt action



Failed Manhole



Failed Manhole



Deteriorated Grout

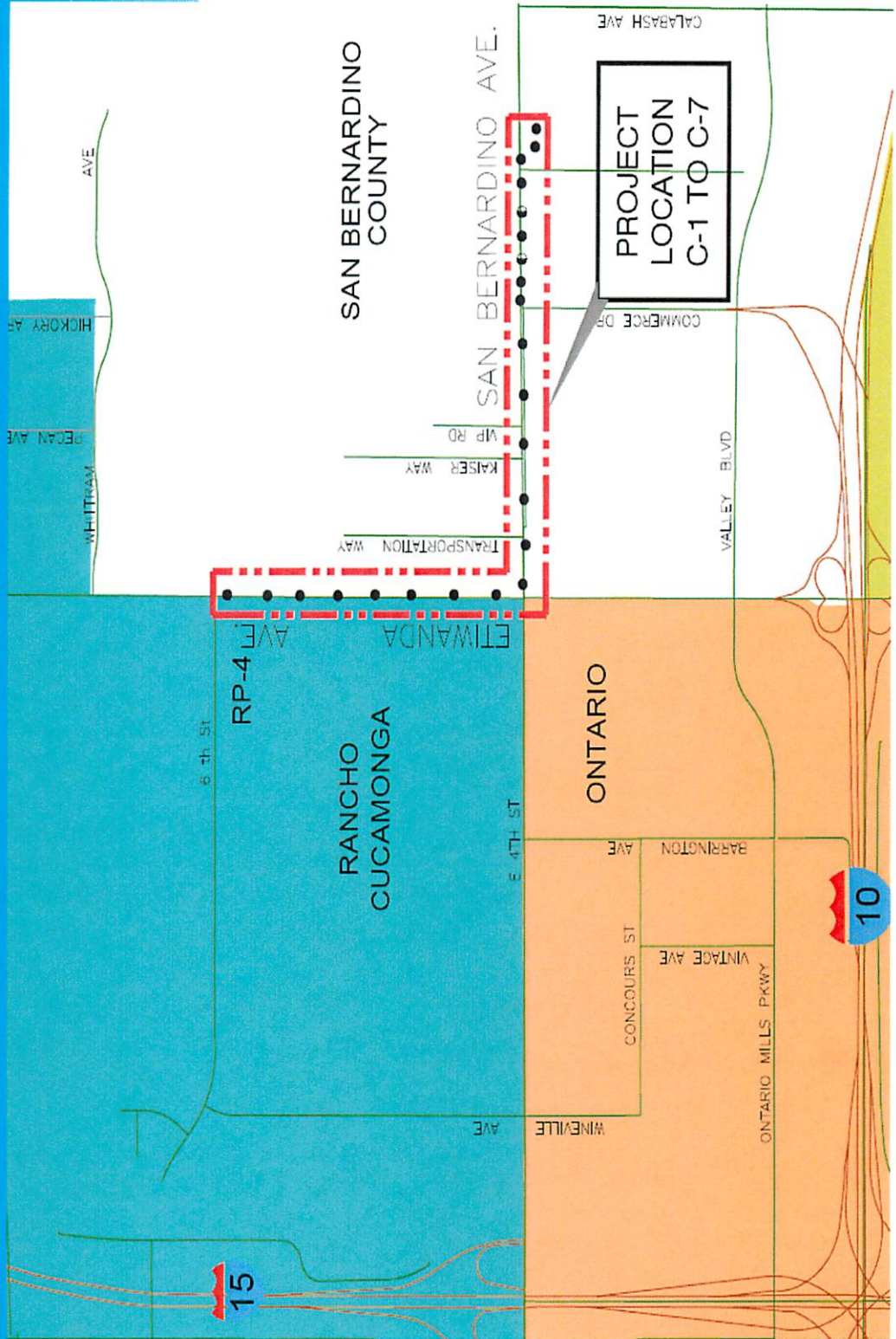


# Project Scope

- Remove and upgrade 23 fiber optic manholes
- Installation to meet traffic rated requirements



# Project Location





# Bid Summary

Bidder's Name	Bid Amount for
J. F. Shea Construction, Inc.	EN15030.02
Engineer's Estimate	\$248,500
	\$360,000

# Project Cost and Schedule

Description	Estimated Cost
Design (In house)	\$50,000
Construction Contract	\$248,500
Construction Management (IEUA and Labor Augmentation)	\$50,000
Construction Contingency (~20%)	\$60,000
<b>Total Project Cost</b>	<b>\$408,500</b>
<b>IEUA Approved Budget</b>	<b>\$680,000</b>

Project Milestone	Date
Construction Contract Award	December 2015
Construction Completion	June 2016



# Agency Goal/Recommendation

Staff recommends that the Board of Directors approve the construction contract award to J. F. Shea Construction, Inc. for the Fiber Optic Pull Box Upgrades, Project No. EN15030.02 for the not-to-exceed amount of \$248,500 and authorize the General Manager to execute the contract.

*Project is part of the Agency's Wastewater Management Capacity Business Goal to maintain capacity within facilities to meet essential service demands and to protect public health and environment*

**1.0 CONTRACT**

THIS CONTRACT, made and entered into this 19<sup>th</sup> day of November, 2015, by and between J. F. Shea Construction, Inc., hereinafter referred to as "Contractor," and The Inland Empire Utilities Agency, a Municipal Water District, located in San Bernardino County, California, hereinafter referred to as "Agency".

**WITNESSETH:**

That for and in consideration of the promises and agreements hereinafter made and exchanged, the Agency and the Contractor agree as follows:

1. Contractor agrees to perform and complete in a workmanlike manner, all work required under the bidding schedule of said Agency's specifications entitled SPECIFICATIONS FOR Fiber Optic Pull Box Upgrades, Project No. EN15030.02, in accordance with the specifications and drawings, and to furnish at their own expense, all labor, materials, equipment, tools, and services necessary, except such materials, equipment, and services as may be stipulated in said specifications to be furnished by said Agency, and to do everything required by this Contract and the said specifications and drawings.
2. For furnishing all said labor, materials, equipment, tools, and services, furnishing and removing all plant, temporary structures, tools and equipment, and doing everything required by this Contract and said specifications and drawings; also for all loss and damage arising out of the nature of the work aforesaid, or from the action of the elements, or from any unforeseen difficulties which may arise during the prosecution of the work until its acceptance by said Agency, and for all risks of every description connected with the work; also for all expenses resulting from the suspension or discontinuance of work, except as in the said specifications are expressly stipulated to be borne by said Agency; and for completing the work in accordance with the requirements of said specifications and drawings, said Agency will pay and said Contractor shall receive, in full compensation therefore, the price(s) set forth in this Contract.
3. That the Agency will pay the Contractor progress payments and the final payment, in accordance with the provisions of the contract documents, with warrants drawn on the appropriate fund or funds as required, at the prices bid in the Bidding and Contract Requirements, Section C - Bid Forms and accepted by the Agency, and set forth in this below.

Total Bid Price \$ Two Hundred Forty-Eight Thousand Five Hundred  
Dollars

and zero Cents.

If this is not a lump sum bid and the contract price is dependent upon the quantities constructed, the Agency will pay and said Contractor shall receive, in full compensation for the work the prices named in the Bidding and Contract Requirements, Section C - Bid Forms.

4. The Agency hereby employs the Contractor to perform the work according to the terms of this Contract for the above-mentioned price(s), and agrees to pay the same at the time, in the manner, and upon the conditions stipulated in the said specifications; and the said parties for themselves, their heirs, executors, administrators, successors, and assigns, do hereby agree to the full performance of the covenants herein contained.
5. The Notice Inviting Bids, Instructions to Bidders, Bid Forms, Information Required of Bidder, Performance Bond, Payment Bond, Contractors License Declaration, Specifications, Drawings, all General Conditions and all Special Conditions, and all addenda issued by the Agency with respect to the foregoing prior to the opening of bids, are hereby incorporated in and made part of this Contract, as if fully set forth.
6. The Contractor agrees to commence work under this Contract on or before the date to be specified in a written "Notice To Proceed" and to complete said work to the satisfaction of the Agency one hundred fifty (150) calendar days after award of the Contract. All work shall be completed before final payment is made.
7. Time is of the essence on this Contract.
8. Contractor agrees that in case the work is not completed before or upon the expiration of the contract time, damage will be sustained by the Agency, and that it is and will be impracticable to determine the actual damage which the Agency will sustain in the event and by reason of such delay, and it is therefore agreed that the Contractor shall pay to the Agency the amount of Four Thousand (\$4,000) dollars for each day of delay, which shall be the period between the expiration of the contract time and the date of final acceptance by the Agency, as liquidated damages and not as a penalty. It is further agreed that the amount stipulated for liquidated damages per day of delay is a reasonable estimate of the damages that would be sustained by the Agency, and the Contractor agrees to pay such liquidated damages as herein provided. In case the liquidated damages are not paid, the Contractor agrees that the Agency may deduct the amount thereof from any money due or that may become due to the Contractor by progress payments or otherwise under the Contract, or if said amount is not sufficient, recover the total amount.

In addition to the liquidated damages, which may be imposed if the Contractor fails to complete the work within the time agreed upon, the Agency may also deduct from any sums due or to become due the Contractor, liquidated damages in accordance with the Bidding and Contract Requirements, Section B -

Instruction to Bidders, Part 5.0 "Liquidated Damages", for any violation of the General Conditions, Section D - Contractor's Responsibilities, Part 8, "Law and Regulations"; Bidding and Contract Requirements Contract Section D -Contract and Relevant Documents, Part 1.0, Paragraphs 9 through 11; General Conditions , Section D - Contractor's Responsibilities, Part 4.0, "Labor, Materials and Equipment"; General Conditions Section D - Contractor's Responsibilities, Part 12.0, "Safety and Protection" or General Conditions Section H - Legal Responsibilities, Part 8.0, "Disturbance of the Peace".

9. That the Contractor will pay, and will require subcontractors to pay, employees on the work a salary or wage at least equal to the prevailing salary or wage established for such work as set forth in the wage determinations and wage standards applicable to this work, contained in or referenced in the contract documents.
10. That, in accordance with Section 1775 of the California Labor Code, Contractor shall forfeit to the Agency, as a penalty, not more than Fifty (\$50.00) Dollars for each day, or portion thereof, for each worker paid, either by the Contractor or any subcontractor, less than the prevailing rates as determined by the Director of the California Department of Industrial Relations for the work.
11. That, except as provided in Section 1815 of the California Labor Code, in the performance of the work not more than eight (8) hours shall constitute a day's work, and not more than forty (40) hours shall constitute a week's work; that the Contractor shall not require more than eight (8) hours of labor in a day nor more than forty hours of labor in a week from any person employed by the Contractor or any subcontractor; that the Contractor shall conform to Division 2, Part 7, Chapter 1, Article 3 (Section 1810, et seq.) of the California Labor Code; and that the Contractor shall forfeit to the Agency, as a penalty, the sum of Twenty-Five (\$25.00) Dollars for each worker employed in the execution of the work by Contractor or any subcontractor for each day during which any worker is required or permitted to labor more than eight (8) hours in violation of said Article 3.
12. That the Contractor shall carry Workers' Compensation Insurance and require all subcontractors to carry Workers' Compensation Insurance as required by the California Labor Code.
13. That the Contractor shall have furnished, prior to execution of the Contract, two bonds approved by the Agency, one in the amount of one hundred (100) percent of the contract price, to guarantee the faithful performance of the work, and one in the amount of one hundred (100) percent of the contract price to guarantee payment of all claims for labor and materials furnished.
14. The Contractor hereby agrees to protect, defend, indemnify and hold the Agency and its employees, agents, officers, directors, servants and volunteers free and harmless from any and all liability, claims, judgments, costs and demands,



including demands arising from injuries or death of persons (including employees of the Agency and the Contractor) and damage to property, arising directly or indirectly out of the obligation herein undertaken or out of the operations conducted by the Contractor, its employees agents, representatives or subcontractors under or in connection with this Contract.

The Contractor further agrees to investigate, handle, respond to, provide defense for and defend any such claims, demands or suit at the sole expense of the Contractor.

IN WITNESS WHEREOF, The Contractor and the General Manager of Inland Empire Utilities Agency\*, thereunto duly authorized, have caused the names of said parties to be affixed hereto, each in duplicate, the day and year first above written.

Inland Empire Utilities Agency,\*  
San Bernardino County, California.

By \_\_\_\_\_  
General Manager

Contractor  
J.F. Shea Construction, Inc.

By  \_\_\_\_\_  
Title  
Steven W. Cox, Executive Vice President

**ACTION  
ITEM  
1C**

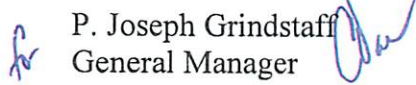



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Date: December 16, 2015

To: The Honorable Board of Directors

Through: Engineering, Operations, and Biosolids Management Committee  
(12/09/2015)

From:  P. Joseph Grindstaff  
General Manager

Submitted by: Chris Berch   
Executive Manager of Engineering/Assistant General Manager

Shaun Stone   
Manager of Engineering

Subject: On-Call Construction Surveying and Engineering Related Services  
Contract Amendment

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### **RECOMMENDATION**

It is recommended that the Board of Directors:

1. Approve a contract amendment with CASC Engineering and Consulting (CASC) for on-call surveying and engineering related services for a one-year contract extension through January 1, 2017, for an additional amount of \$250,000 to the original contract; and
2. Authorize the General Manager to execute the contract amendment.

### **BACKGROUND**

On December 19, 2012, the Board of Directors awarded a competitively-let surveying and engineering related services contract to CASC for a not-to-exceed amount of \$750,000. Since 2012, CASC has performed required surveying services (as-built, mapping, etc.) to ensure facilities are constructed per the contract documents and have been paid \$710,000 to date. CASC has supported Agency design, construction, maintenance, and asset management projects. The current contract with CASC will expire on January 1, 2016.

Based on an evaluation of performance, location, proposed fees, approach, composition of team, and professional references, staff has determined that CASC has satisfactorily supported the Agency's needs. Therefore, staff is recommending an amendment to CASC's contract for a one-year term extension for the amount of \$250,000. The amendment will include proposed rate

changes. The \$250,000 threshold was established from historical spending over the last three years. The additional amount requested will amend the original contract not-to-exceed amount to \$1,000,000.

CASC master contract amendment is part of the Agency's Wastewater Management Capacity Business Goal objective that IEUA will ensure capital projects are designed and implemented in a timely and economically responsible manner.

**PRIOR BOARD ACTION**

On December 19, 2012, the Board of Directors approved a competitively-let three-year contract to CASC, for construction surveying and engineering related services for a not-to-exceed amount of \$750,000.

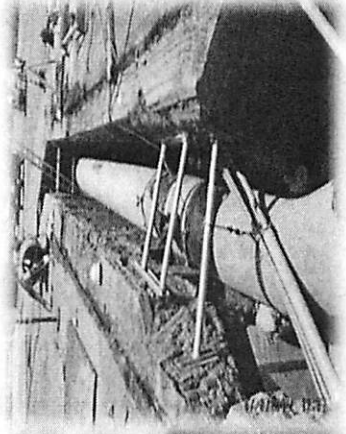
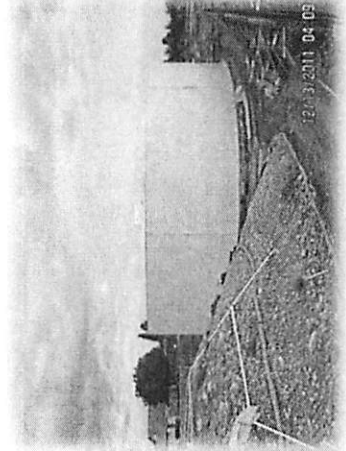
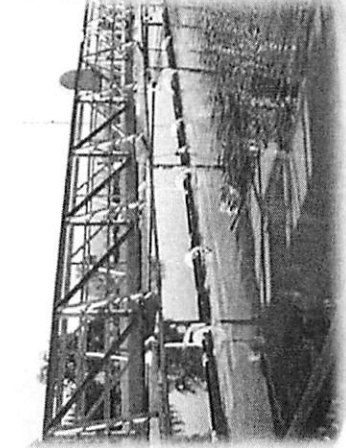
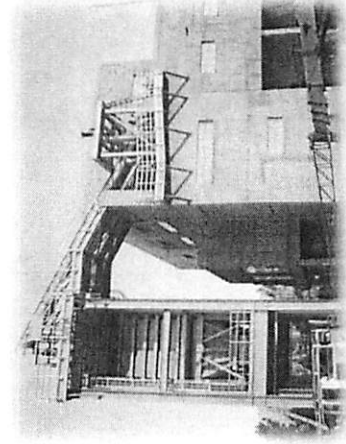
**IMPACT ON BUDGET**

There is no direct impact on the Agency's Fiscal Year Budget as a result of this action. This contract is for surveying and engineering related services work, which is required on various projects, various department related assignments, and at various times through January 2017. The funding for this work is included in each individual project and the department O&M budget under various program funds.

PJG:CB:SS:dm

# On-Call Construction Survey and Engineering Related Services Contract Amendment

December 2015

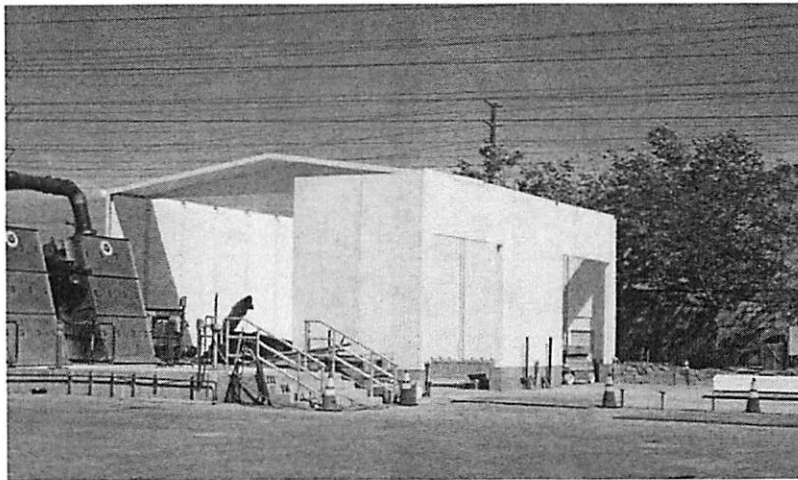


Shaun J. Stone, P.E.,  
Manager of Engineering

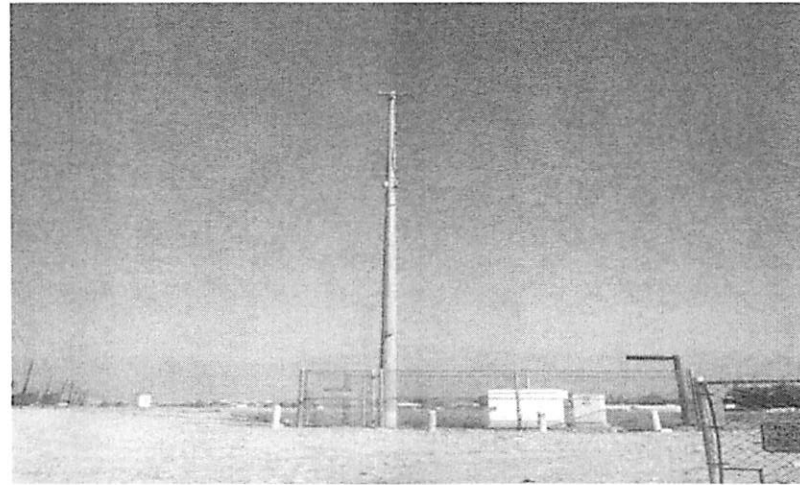
David Mendez  
Acting Deputy Manager of Engineering

# Background

- CASC contract award: December 2012
- Provides On-Call construction survey and engineering related services
  - Capital improvement projects
  - Maintenance and asset management projects
  - Pre-design and design survey
- CASC has successfully worked with the Agency since 2012



RP-4 Headworks Retrofit



GWR and RW Communication Systems Upgrades



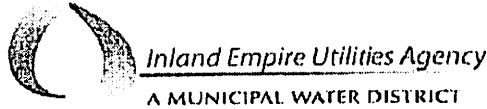
# Contract Information

- Existing Contract
  - Original contract amount: Not-to-exceed \$750,000
  - Current term: January 1, 2013 – January 1, 2016
- Proposed Amendment
  - Not-to-exceed amount of \$250,000
  - Term extension: January 2016 – January 2017
  - Updated rate schedule

# Agency Goal/Recommendation

Staff recommends that the Board of Directors approve a contract amendment with CASC Engineering and Consulting (CASC) for on-call surveying and engineering related services for a one-year contract extension through January 1, 2017, for a not-to-exceed total amount of \$250,000.

The master contract amendment is part of the Agency's Wastewater Management Capacity Business Goal objective that IEUA will ensure capital projects are designed and implemented in a timely and economically responsible manner.



**MASTER SERVICES CONTRACT AMENDMENT NUMBER: 4600001356-001**  
**FOR PROVISION OF CONSTRUCTION MANAGEMENT**  
**SURVEYING AND RELATED SERVICES**

THIS AMENDMENT is made and entered into this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, by and between the Inland Empire Utilities Agency, a Municipal Water District, organized and existing in the County of San Bernardino under and by virtue of the laws of the State of California (hereinafter referred to as "Agency"); and AEI-CASC Engineering, Inc., dba AEI-CASC Consulting and CASC Engineering and Consulting, Inc., with offices located in Colton, California (hereinafter referred to as "Contractor"), for on-call Construction Management surveying and related services, and shall revise the Contract as amended:

**REVISE SECTION 3., TERM, TO ADD:** The Agency hereby exercises its first option to extend the term of this Master Services Contract from the date of the contract execution through to January 1, 2017, with one (1) one-year Term extension option remaining, unless agreed to by both parties, reduced to writing, and formally incorporated as an amendment to this Master Services Contract.

**REVISE SECTION 5., INVOICING AND PAYMENT, TO ADD:** In compensation for the additional work represented by this Contract Amendment, Agency shall pay Contractor in accordance with the revised hourly fee schedule, which is attached hereto and made a part hereof as **Exhibit A**, a **NOT-TO-EXCEED** maximum total of \$1,000,000.00 for all services and expenses. This represents an overall increase of \$250,000.00 to the Contract.

**ALL OTHER PROVISIONS OF THIS CONTRACT REMAIN UNCHANGED.**

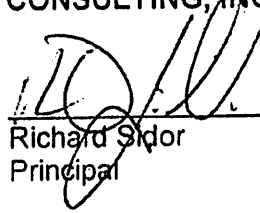
WITNESSETH, that the parties hereto have mutually covenanted and agreed as per the above Amendment items, and in doing so have caused this document to become incorporated into the Contract documents.

**INLAND EMPIRE UTILITIES AGENCY:**

**AEI-CASC ENGINEERING, INC., DBA AEI-CASC CONSULTING AND CASC ENGINEERING AND CONSULTING, INC.:**

\_\_\_\_\_  
P. Joseph Grindstaff  
General Manager

(Date)

  
\_\_\_\_\_  
Richard Sidor  
Principal

11/30/15  
\_\_\_\_\_  
(Date)

# **Exhibit A**

**CASC ENGINEERING AND CONSULTING**

**RATE SCHEDULE**

January 1, 2015 – December 31, 2015

Civil Engineering

President/Principal Engineer	\$180.00
Director	\$170.00
Senior Program Manager/Technical Specialist	\$165.00
Program Manager	\$155.00
Project Manager/Senior Engineer III	\$150.00
Project Manager/Senior Engineer II	\$145.00
Project Manager/Senior Engineer I	\$140.00
Assistant Project Manager	\$135.00
Project Engineer	\$130.00
Senior Designer II	\$125.00
Senior Designer I	\$120.00
Design Engineer II	\$115.00
Design Engineer I	\$110.00
Designer II	\$105.00
Designer I	\$100.00
CADD Drafter II	\$90.00
CADD Drafter I	\$85.00
Technical Aide	\$75.00

Environmental/Water Quality Services

Director	\$170.00
Senior Program Manager/Technical Specialist	\$165.00
Program Manager	\$155.00
Project Manager/Technical Specialist	\$150.00
Senior Environmental Analyst/ Scientist III	\$145.00
Senior Environmental Analyst/ Scientist II	\$140.00
Senior Environmental Analyst/ Scientist I	\$135.00
Environmental Analyst/ Scientist III	\$130.00
Environmental Analyst/ Scientist II	\$125.00
Environmental Analyst/ Scientist I	\$115.00
Staff Analyst/Scientist II	\$105.00
Staff Analyst/Scientist I	\$95.00
Staff Assistant II	\$85.00
Staff Assistant I	\$75.00

Clerical

Project Coordinator/Clerical III	\$80.00
Project Coordinator/Clerical II	\$75.00
Project Coordinator/Clerical I	\$70.00
Project Assistant	\$65.00

Planning

Planning Director	\$173.00
Senior Program Manager/Technical Specialist	\$165.00
Senior Project Manager - Planning	\$153.00
Project Manager - Planning	\$135.00
Senior Planner II	\$125.00
Senior Planner I	\$115.00
Planner II	\$105.00
Planner I	\$95.00
Graphic Artist	\$85.00
Associate Planner	\$75.00
Planning Aide	\$65.00

Landscape Architectures

Licensed Landscape Architect	\$150.00
Senior Landscape Designer	\$130.00
Associate Landscape Designer	\$110.00
Assistant Landscape Designer	\$95.00
Landscape CADD Drafter	\$80.00

Construction Management

Resident Engineer	\$150.00
Assistant Resident Engineer	\$135.00
Field Inspector III	\$115.00
Field Inspector II	\$100.00
Field Inspector I	\$85.00

Surveying and Mapping

Licensed Surveyor/ Director	\$170.00
Senior Survey Project Manager	\$141.00
Senior Survey Analyst	\$113.00
Senior Calculator	\$92.00
Survey Analyst II	\$70.00

Field Survey Crews

Three Person Survey/GPS Crew	\$226.00
Two Person Survey/GPS Crew	\$200.00
One Person Survey/GPS Crew	\$195.00

Litigation Support and Expert Witness shall be at 2.0 times the above noted hourly rates.

**REIMBURSABLE EXPENSES**

The following expenses will be billed at cost plus 15% unless otherwise noted:

**Outside Services:** Includes fees paid to sub-consultants, consultants, analytical laboratories, and other providers of services required for execution of the project.

**Permits, Applications, and Fees:** Includes fees for Notices of Intent (NOI), Notices of Termination (NOT), application fees, submittal fees, permit fees, and other fees required as part of the project and not paid directly by Client.

**Reproduction Services:** Includes blueprinting, copying, printing and plotting. In-house plots will be billed at \$6.00 per sheet for each client set and for a final in-house review set. B&W / Color copies: \$0.08 / \$0.90 for 8.5 X 11 and \$0.20 / \$1.20 for 11 X 17.

**Rental Fees:** Includes rental fees paid by the firm, including required vehicles, equipment, and tools required to complete the work.

**Commercial Delivery Services:** Including Express Mail, Federal Express, UPS and independent courier services.

**In-House Pick-Up and Delivery Services:** When provided by the firm, these services will be billed at \$48.00 per hour plus \$0.66 per mile round trip, with no additional markup.

**Travel Expenses:** Includes travel expenses incidental to performance of the work, including airfare, parking, tolls, taxi, lodging, and etc. Vehicle mileage will be billed at a rate of \$0.66 per mile with no additional markup. Travel time for professional and administrative staff will be billed per the hourly fee rate schedule with no additional markup and survey crews will be billed at \$50 per hour, per 2 man crew.

**Per Diem:** Per diem for meals for overnight stays will be billed at \$40 per day, per person.

**Prevailing Wage:** Projects and/or portions thereof designated by Client to be subject to Prevailing Wage shall be billed at the regular staff rate or the Prevailing Wage rate, whichever is higher. The Prevailing Wage rate shall be (2.28) X (Total Hourly Rate), where the Total Hourly Rate is from the Wage Rate Determination issued by California's Director of Industrial Relations for the locality and employee classification at the time the work is performed.

**Waiver of Subrogation:** When a Waiver of Subrogation for Workman's Compensation Insurance is required by the Client, the Client will be required to pay the additional insurance premium. The approximate amount for the waiver is \$250 per year.

*Mitchell E. Furberg*  
*Secretary / Treasurer*  
11/19/15

Client Initial \_\_\_\_\_

**ACTION  
ITEM  
1D**

✓



Date: December 16, 2015

To: The Honorable Board of Directors

Through: Engineering, Operations, & Biosolids Committee (12/9/15)

From: *for* P. Joseph Grindstaff *AW*  
General Manager

Submitted by: Chris Berch *CB*  
Executive Manager of Engineering/Assistant General Manager

*for* Sylvie Lee *AW*  
Manager of Planning and Environmental Resources

Subject: Energy Management Plan (EMP)

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### **RECOMMENDATION**

It is recommended that the Board of Directors concur with the findings of the EMP.

### **BACKGROUND**

The primary objectives of the EMP is to benchmark the Agency's current energy performance and greenhouse gas emissions baseline, forecast future demands, and explore measures that will cultivate a reliable and sustainable energy infrastructure to achieve the objectives set forth in IEUA's Business Goals. This plan also aims to identify projects and business practices that can improve the Agency's Integrated Demand Side Management (IDSMS) and work in concert with energy utilities whenever possible to benefit grid management.

As described in past planning documents, grid independence during peak periods has been a central goal within the Agency. IEUA has progressed toward this goal by developing a diverse energy portfolio; however, detailed studies are needed to address changing environmental regulations that may dictate available technologies. In concert with peak power independence, the EMP also establishes a new goal to acquire 100 percent of IEUA's electricity needs from carbon neutral sources by 2030, through strategic planning and renewable resource optimization.

Wastewater flow projections were utilized to forecast anticipated seasonal demands at each IEUA facility. The EMP relied on forecasting to evaluate the feasibility of site-specific energy projects. Forecasts were developed by incorporating projects from the Ten-Year Capital Improvement Plan (TYCIP) and findings from the Wastewater Facilities Master Plans, as well as, the anticipated performance of applicable self-generation installations. The EMP identified

several potential energy projects, such as lighting upgrades and expansion of the solar installation at the IERCF, that are recommended to undergo more detailed analyses to determine whether they will be implemented into the 2016/17 TYCIP.

Focused business practices, such as energy procurement strategies and improved energy monitoring were discussed within the plan, as cost saving measures can extend beyond conservation projects. Through prudent planning that considers past performance and anticipates regional needs, this EMP constructs a blueprint to shape a reliable and efficient energy profile for the Agency and open communication with energy utilities to enhance the water-energy relationship.

The EMP will be reevaluated once every two years. A Program Environmental Impact Report (PEIR) is being prepared and will incorporate the findings of the EMP, along with the remainder of the Agency's planning documents, such as the Wastewater Facilities Master Plan and the Integrated Resources Plan. Following the Board approval of the PEIR, each of these planning documents will be brought to the Board for final approval.

Development of the EMP is consistent with the IEUA business goal of *Wastewater Management*, namely optimizing facility energy use, effectively managing renewable resources to achieve peak power independence, and providing for future rate stabilization.

#### **PRIOR BOARD ACTION**

None.

#### **IMPACT ON BUDGET**

The EMP was entirely developed in-house.

# Attachment A

## 2015 Energy Management Plan

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Full plan is available at

<https://ieua.hostedftp.com/CqjDTo3uB4jLAbsw7M0ZQzrKi>

# Attachment B

## Fact Sheets

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# Fuel Cell

Facility: Regional Water Recycling Plant No. 1 (RP-1)

Manufacturer: Fuel Cell Energy, DFC3000

Rating Output: 2,800 kW

Estimated Annual Output: 19,260 MWh/yr

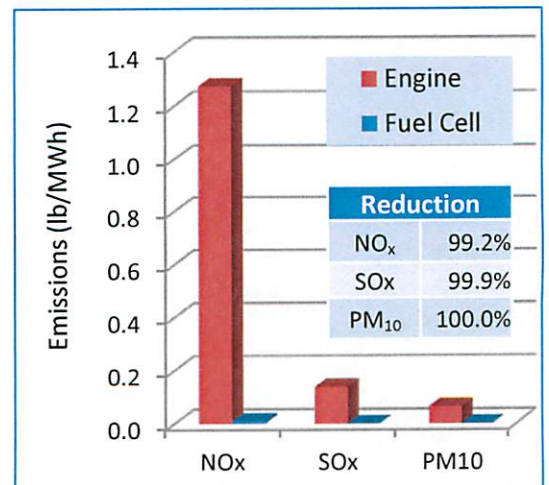
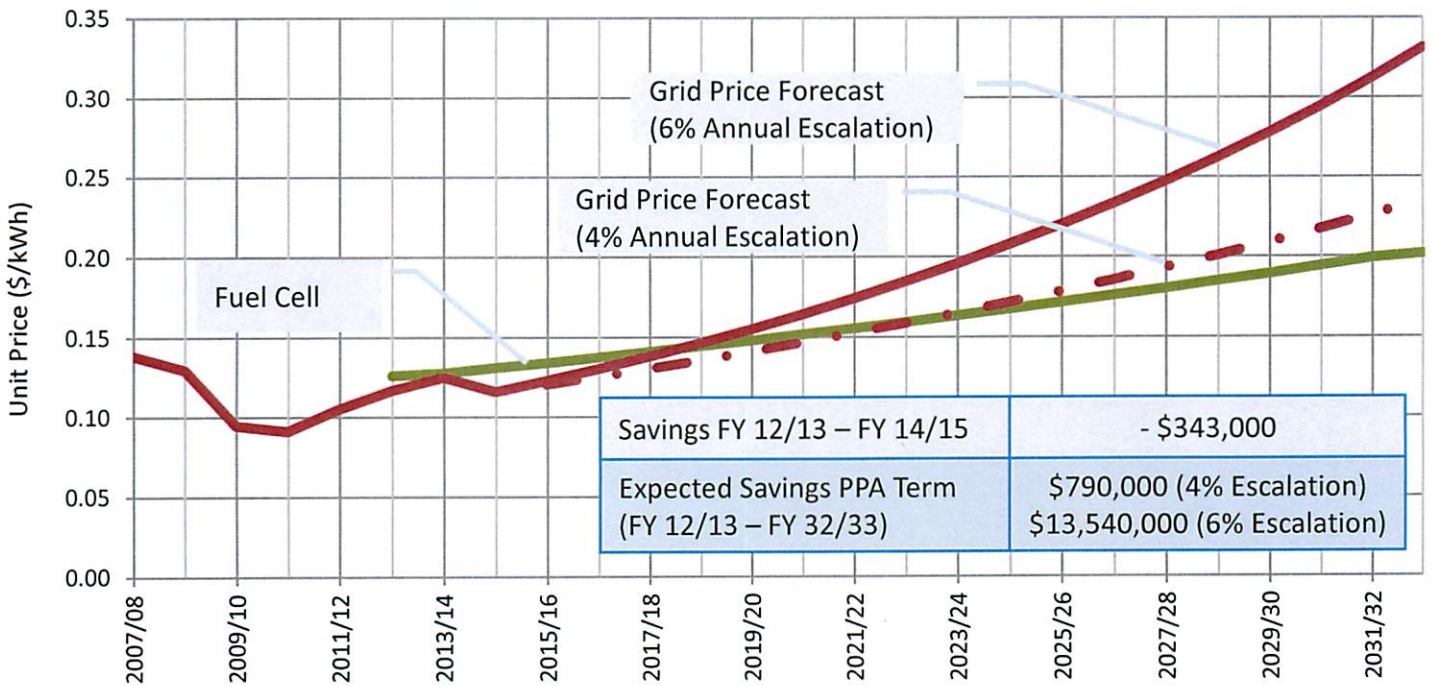
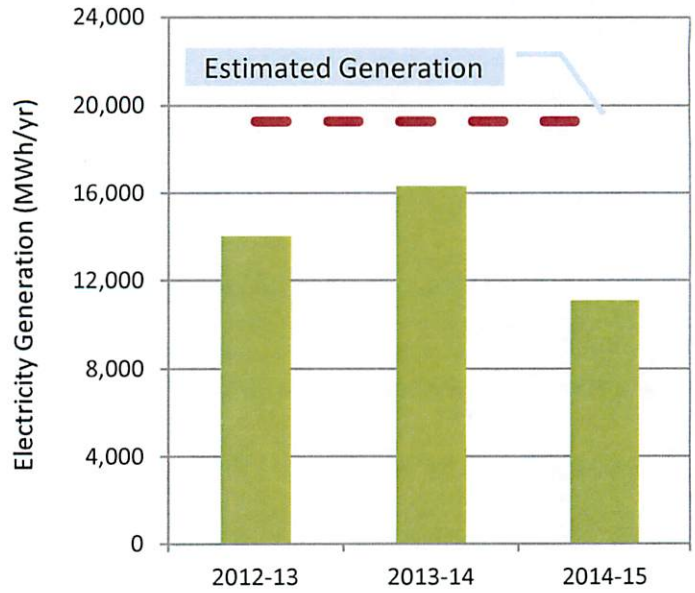
Commercial Operation Date: 1/1/2013

Power Purchase Agreement: Anaergia (20 years)

PPA Rate: \$0.1262/kWh (2013) - \$0.2017/kWh (2033)

Ancillary Equipment: Gas Cleaning System, Heat Recovery

Fuel Requirements: 612,000 – 830,000 cft/day biogas





# Solar

Facilities: Carbon Canyon Water Recycling Facility,  
Regional Water Recycling Plant No. 1, No.4, No.5

Manufacturer: SunPower, Evergreen

Rating Output: 3,500 kW

Estimated Annual Output: 7,000 MWh/yr

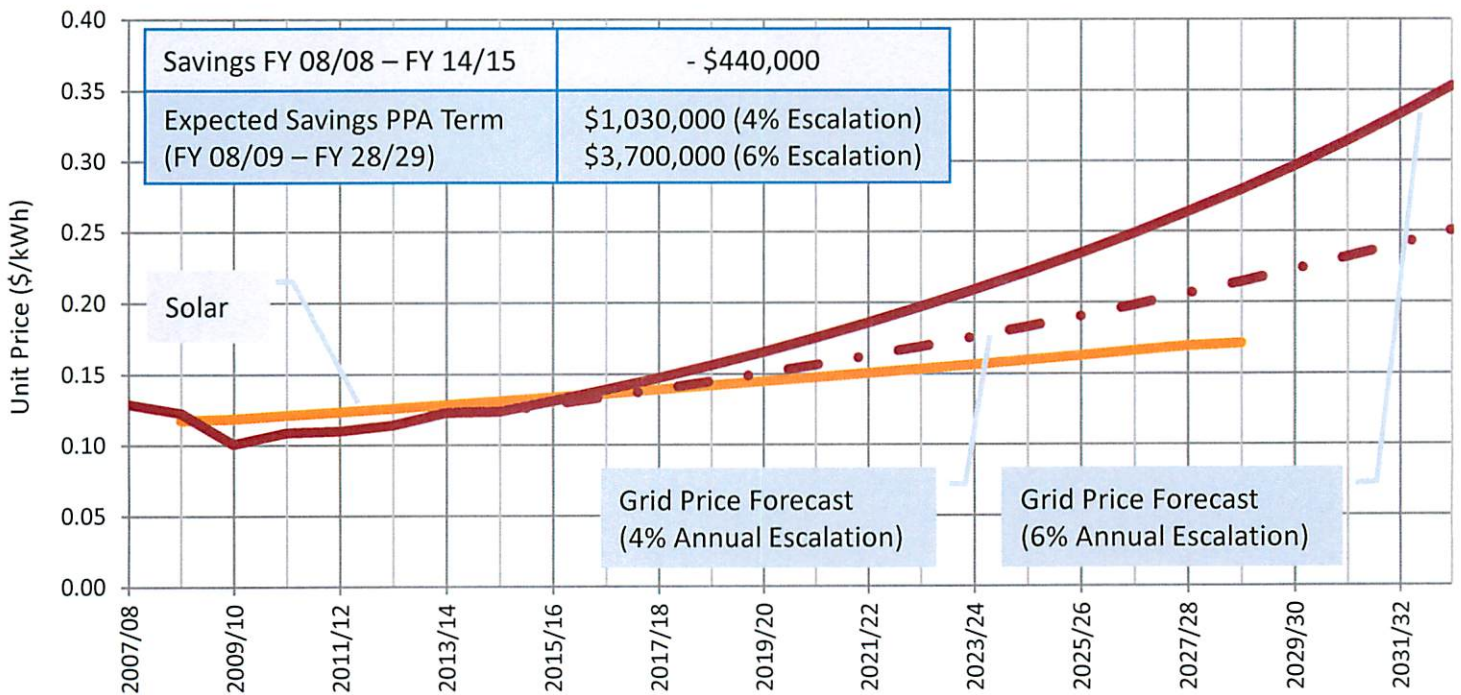
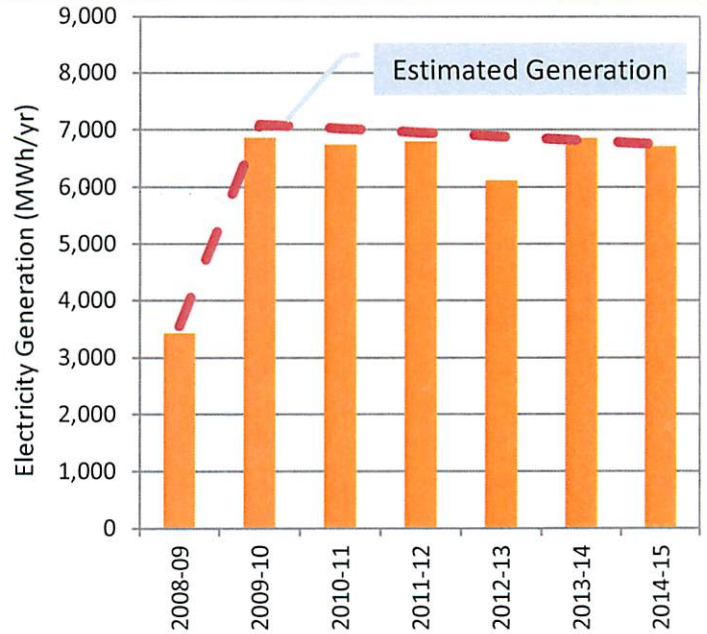
Commercial Operation Date: 12/2008

Power Purchase Agreement: SunPower

PPA Rate: \$0.1173/kWh (2008) - \$0.1709/kWh (2028)

Number of Panels: 18,210

Type of Panels: Ground/Roof Mounted Fixed Tilted,  
Ground Mounted Tracker



## Environmental Benefits Since 2008

Renewable Energy = 43,524 MWh

Equivalent to:

- Carbon sequestered by 10,896 acres of forest in one year.
- Removing 2,799 passenger vehicles from the road for one year.

## Emissions Reductions (tons)

VOC = 0.47	CO = 3.33
NOx = 1.64	PM10 = 0.39
SOx = 0.22	CO2e = 13,293



# Wind Turbine

Facility: Regional Water Recycling Plant No. 4 (RP-4)

Manufacturer: Mitsubishi, MWT 62/1.0 - 1000A

Rating Output: 1,000 kW

Estimated Annual Output: 1,500 MWh/yr

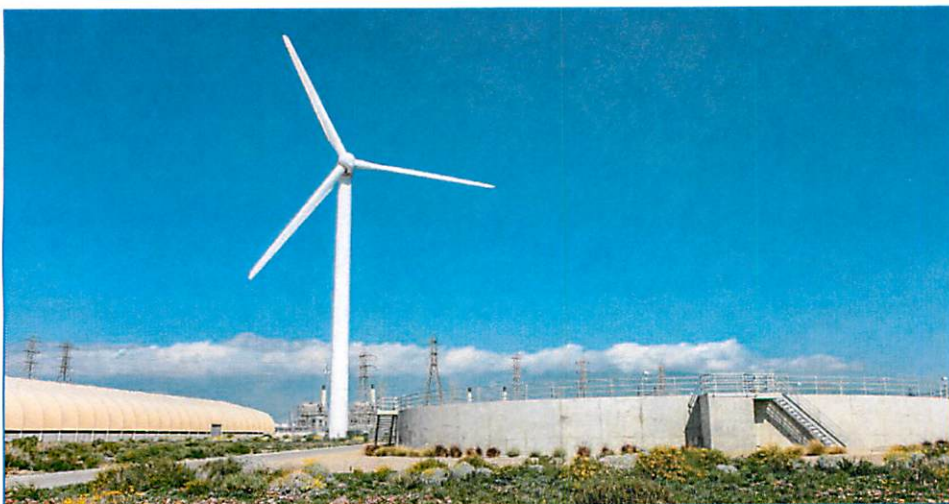
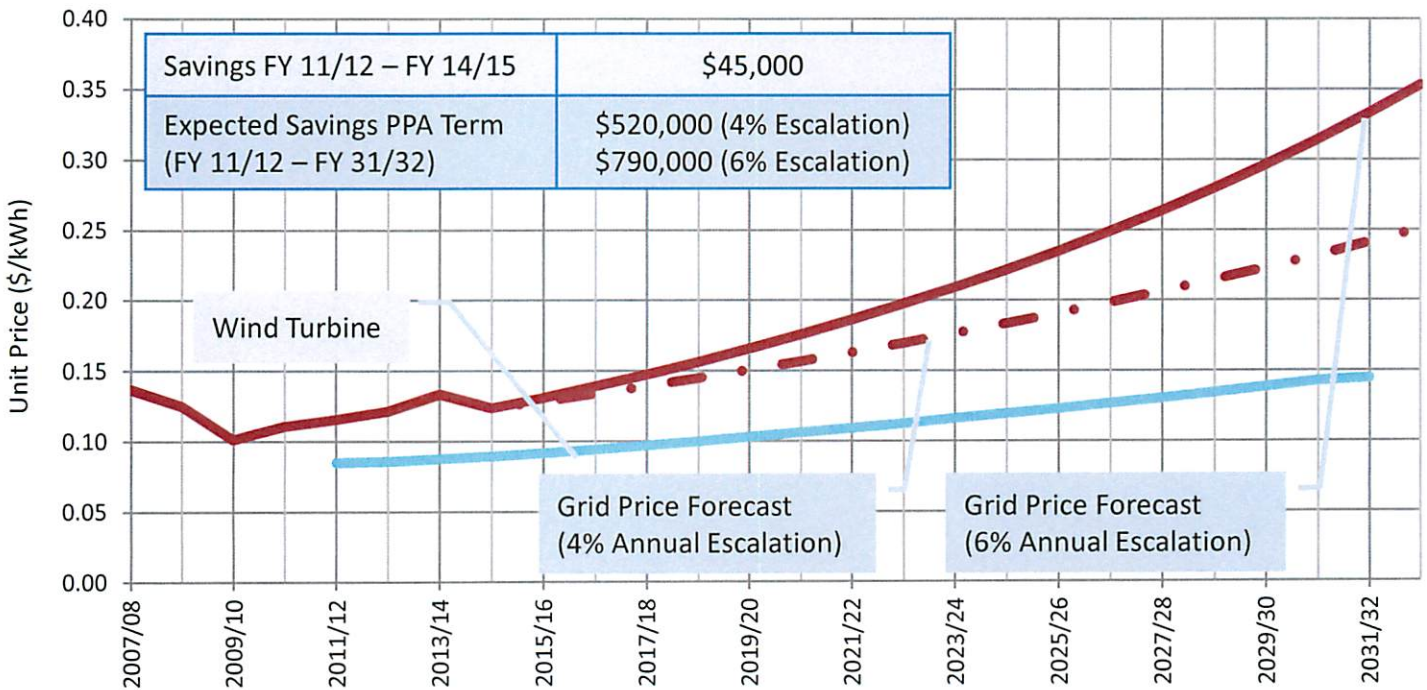
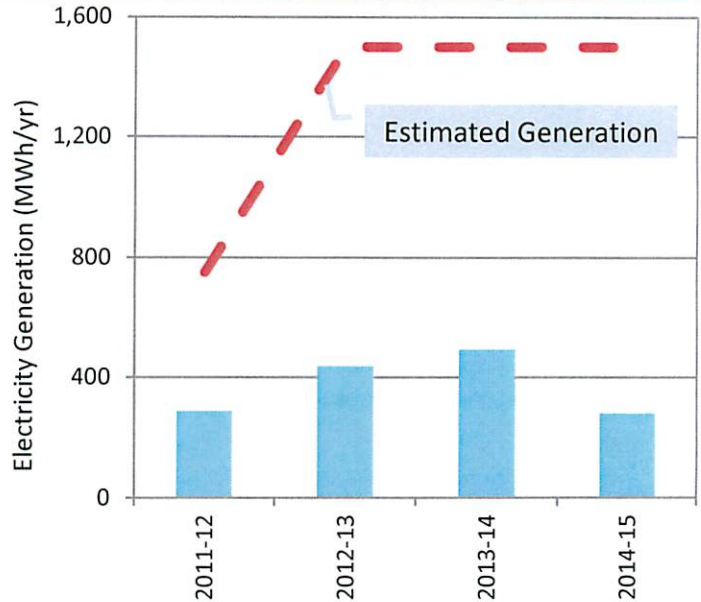
Commercial Operation Date: 12/3/2011

Power Purchase Agreement: Foundation Wind Power

PPA Rate: \$0.085/kWh (2011) - \$0.145/kWh (2031)

Wind Speed: 7 mph (100 kW) – 27 mph (1,000 kW)

Tower Height: 180 ft



## Environmental Benefits Since 2011

Renewable Energy = 1,498 MWh

Equivalent to:

- Carbon sequestered by 375 acres of forest in one year.
- Removing 96 passenger vehicles from the road for one year.

## Emissions Reductions (tons)

VOC = 0.02	CO = 0.11
NOx = 0.06	PM10 = 0.01
SOx = 0.01	CO2e = 458



# Energy Management Plan (EMP)

earthorenstct, inc.

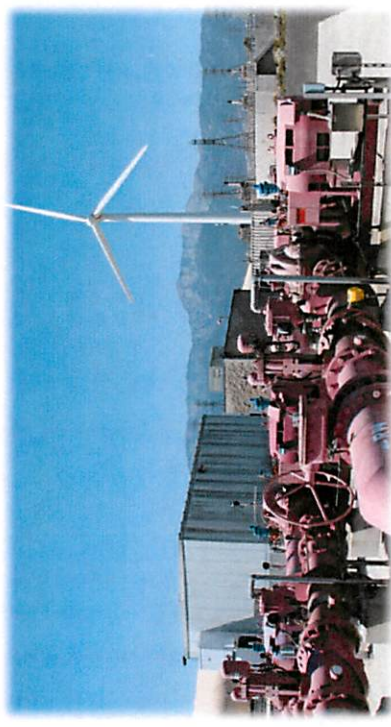


December 2015

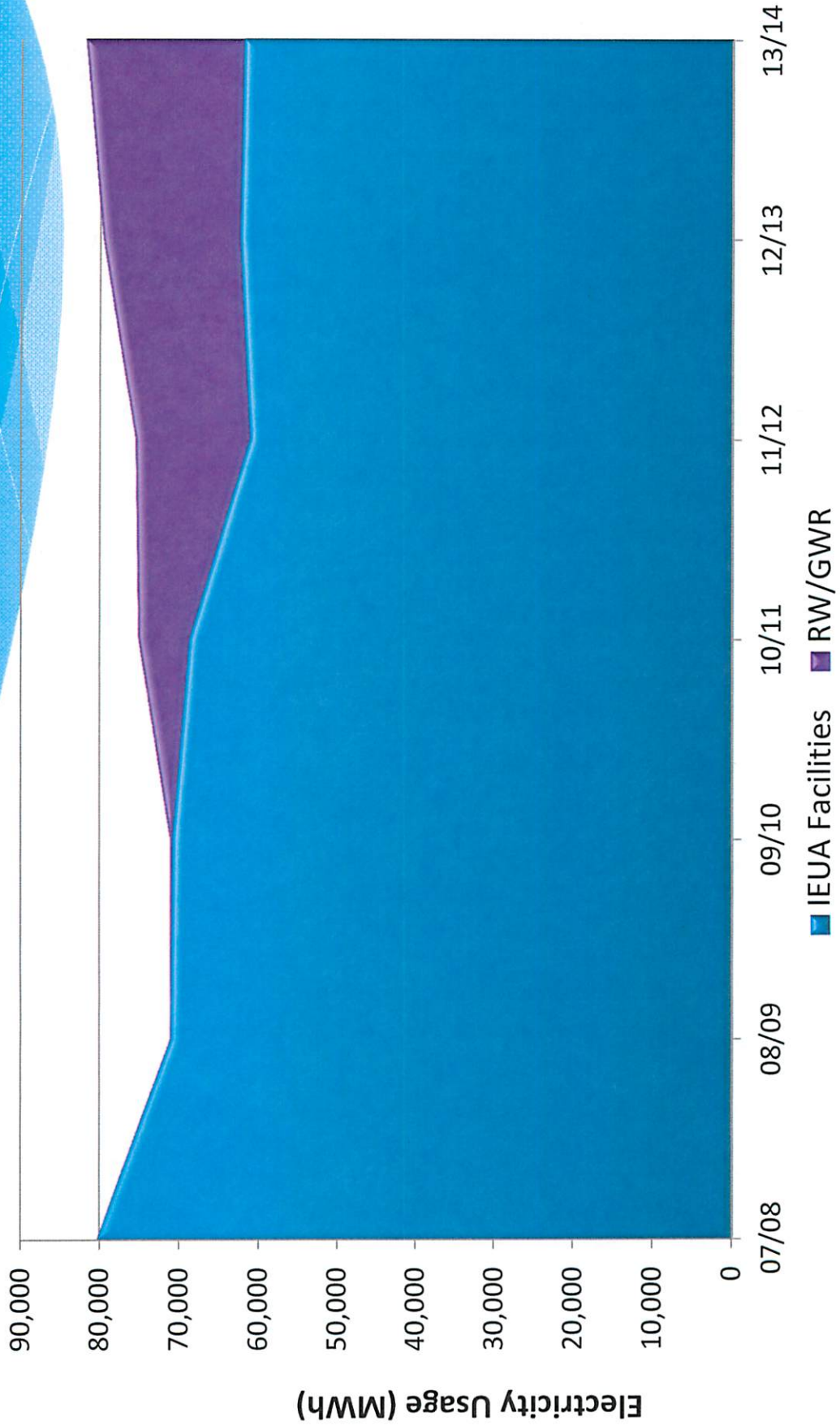


# EMP Overview

- Benchmark Current Performance
- Peak Power Independence Status
- Optimize Resources
- Improve Demand Side Management
- Forecast Facility Demands
- Mitigate Greenhouse Gas Impacts
- Identify Potential Energy Projects
- Track Energy Regulations
- Qualify for State/Federal Grants

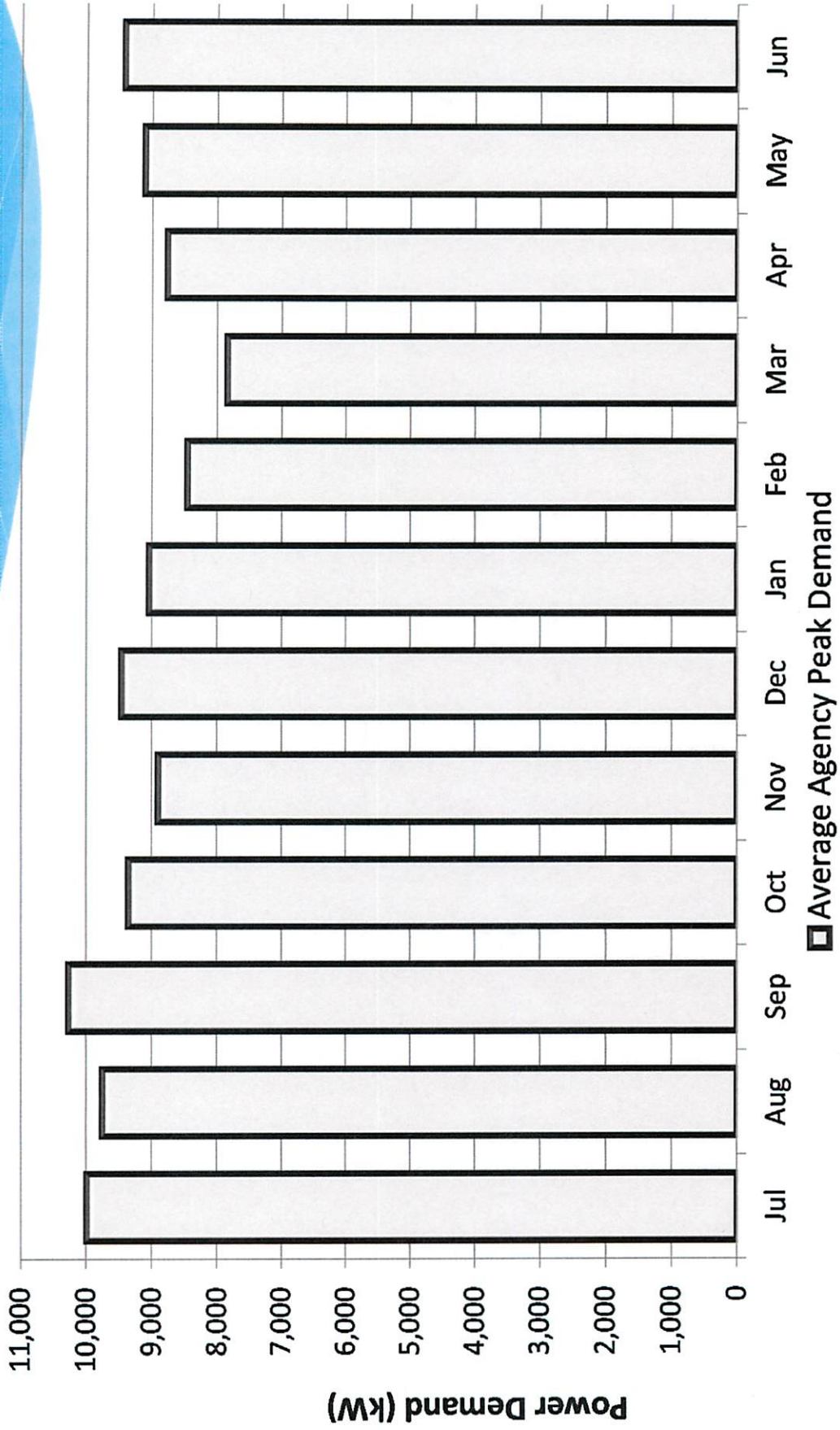


# Energy Benchmarking



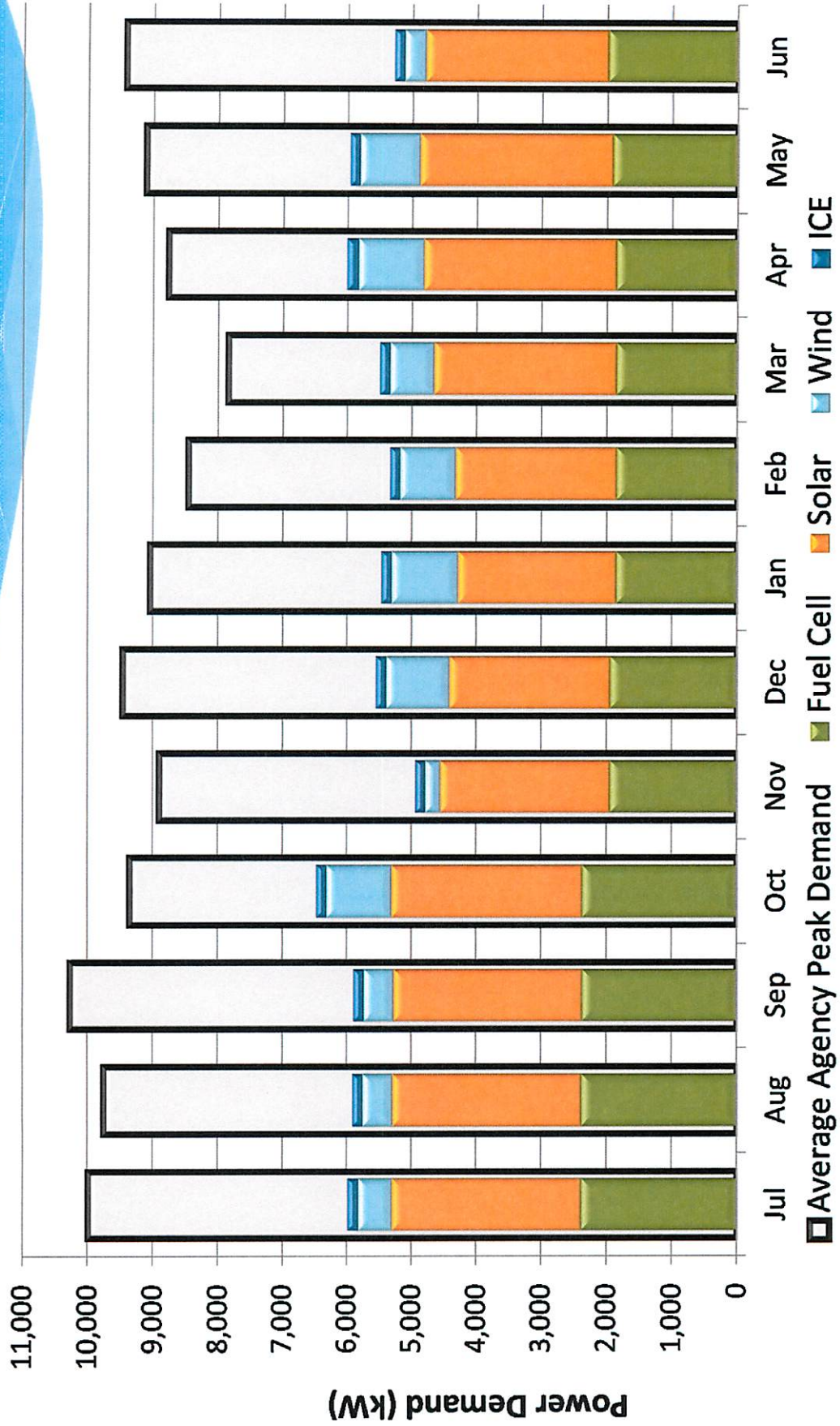


# Peak Power Benchmarking

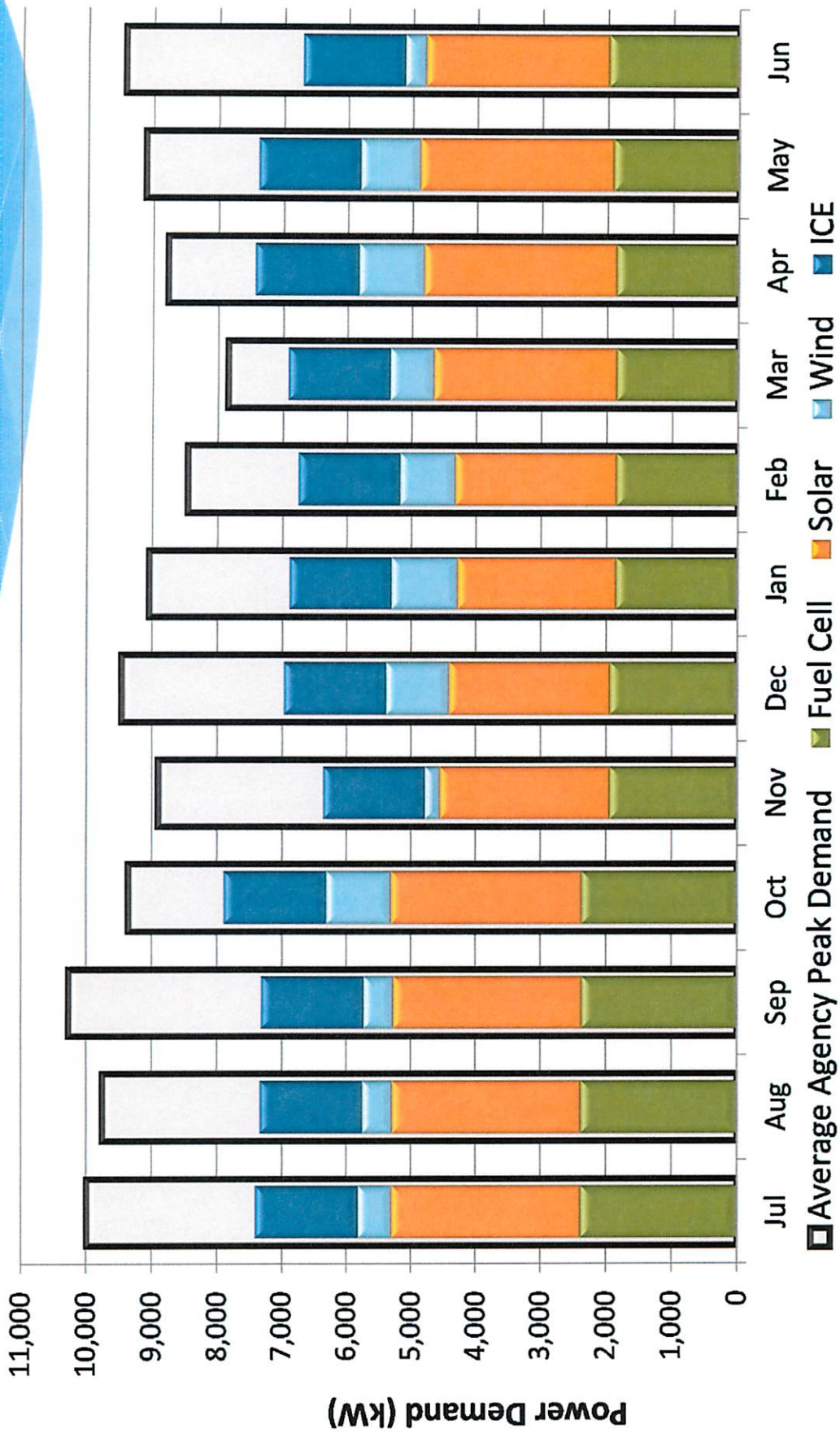




# Peak Power Benchmarking



# Peak Power Benchmarking

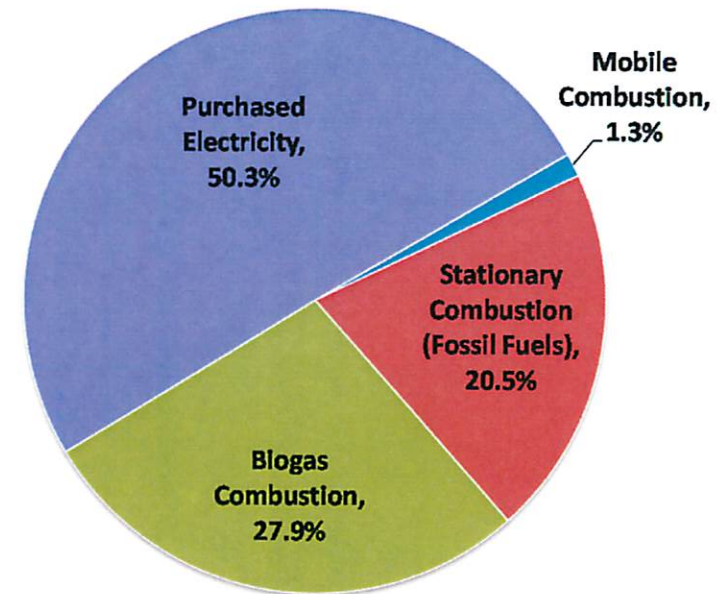




# GHG Benchmarking

2008 GHG Emissions (Metric Tons CO <sub>2</sub> e)	2013 GHG Emissions (Metric Tons CO <sub>2</sub> e)	Percent Reduction
52,400	33,506	36.1%

- Registered Member of The Climate Registry
  - Annual voluntary reporting of GHG emissions
  - Verification by end of 2015
    - To qualify for Cap-and Trade funding
  - Establish current carbon footprint and track improvements



# Facility Assessments

- Available Resources
  - On-site renewables
  - Digester gas production
- Facility Load
  - Seasonal variation
- Electricity Procurement Strategy
- Demand Response Capabilities
- 20-Year Energy Forecast
- Project Opportunities





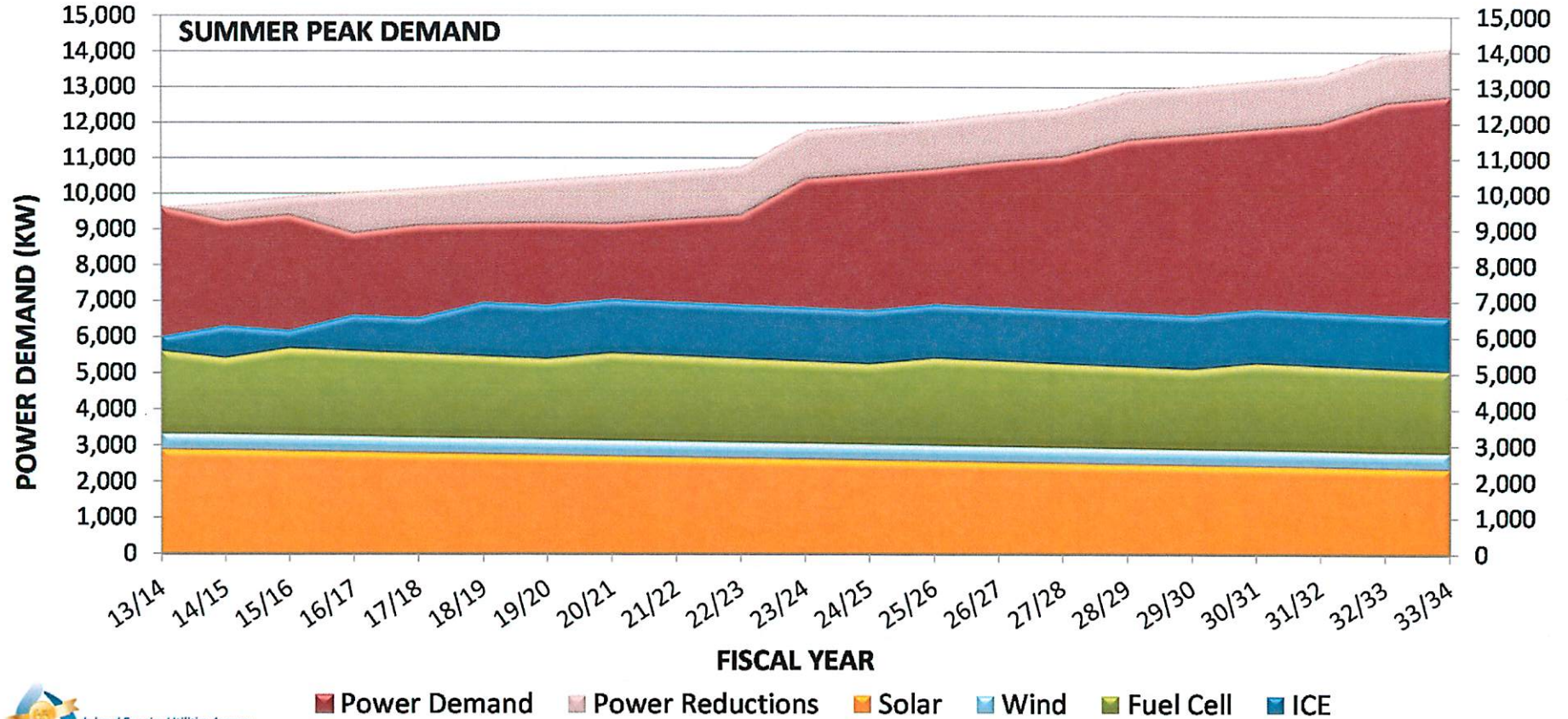
# Short-Term Goals

Project	Implementation Timeline	Anticipated Capital	Funding Assistance
Retrofit Lighting at IEUA Facilities	2016	\$1,000,000	SCE
Pump Optimization	2016	\$1,500,000	SCE
Provide Energy Management Training to Staff	2016	-	-
Incorporate Efficiency and GHG Targets into Project Solicitation	2016	-	-
Install Energy Storage	End of 2016	-	-
Phase I Efficiency Measures at RP-1	2016 – 2017	\$200,000	SCE
HVAC Controls and Upgrades	2016 – 2018	\$125,000	
<b>Total</b>		<b>\$2,825,000</b>	



# Forecasting Demands

Information from TYCIP, WFMPs, and Short-Term Goals





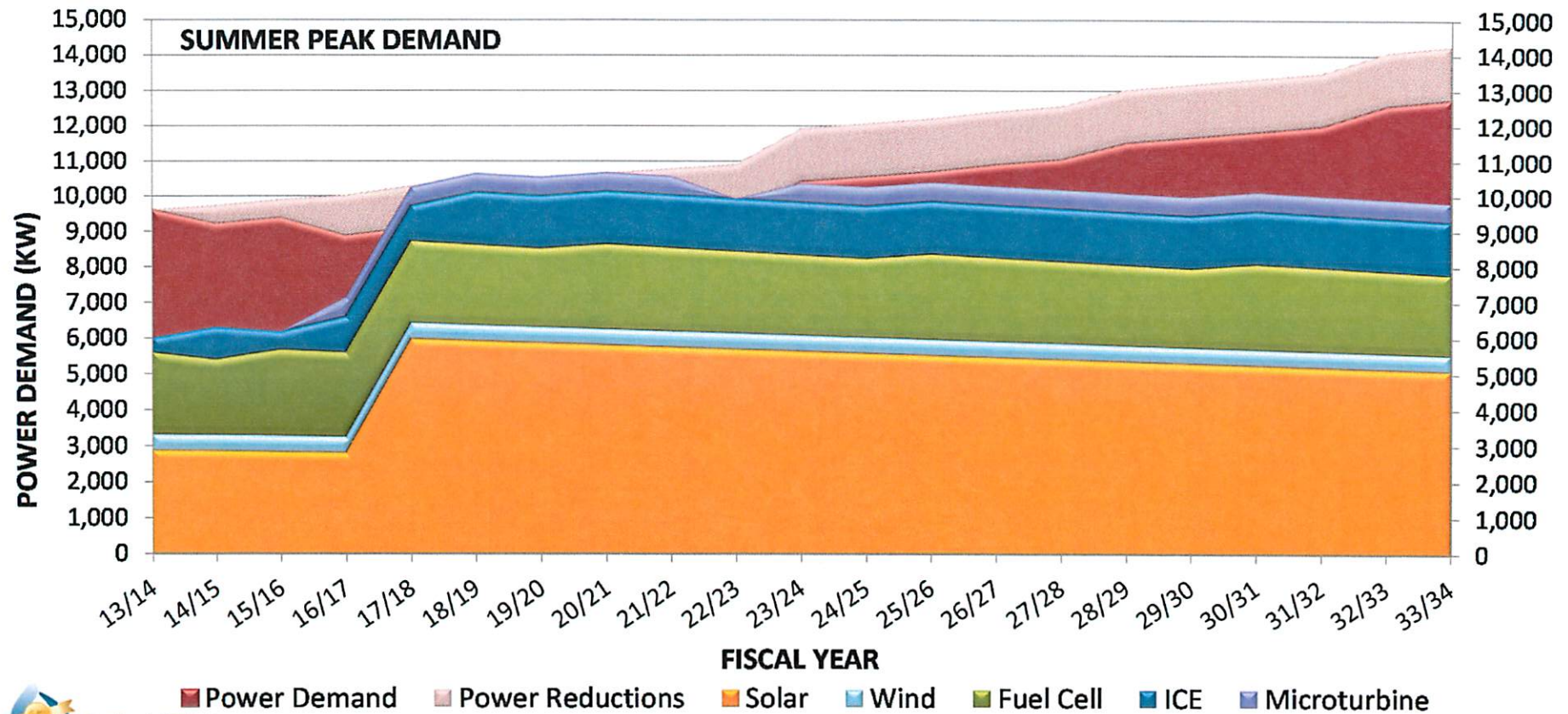
# Long-Term Goals

Project	Implementation Timeline	Anticipated Capital	Funding Assistance
Expand Solar at RP-4	2016 – 2017	\$4,000,000	PPA Option
Install Microturbine at RP-2	2017	\$3,000,000	SGIP
Purchase Existing Solar Installations	2016 – 2019	\$7,500,000	-
Digester Gas Mixing at RP-1	2016 – 2020	\$1,500,000	SCG
Implement Phase II and III Efficiency Measures from Audits	2017 – 2020	TBD	TBD
Reduce Flaring by 50%	2019	-	-
Install Additional 3 – 5 MW of Solar	2016 – 2020	\$20,000,000	PPA Option
Peak Power Independence	2020	TBD	TBD
Carbon Neutral by 2030	2030	TBD	TBD
<b>Total</b>		<b>\$36,000,000</b>	



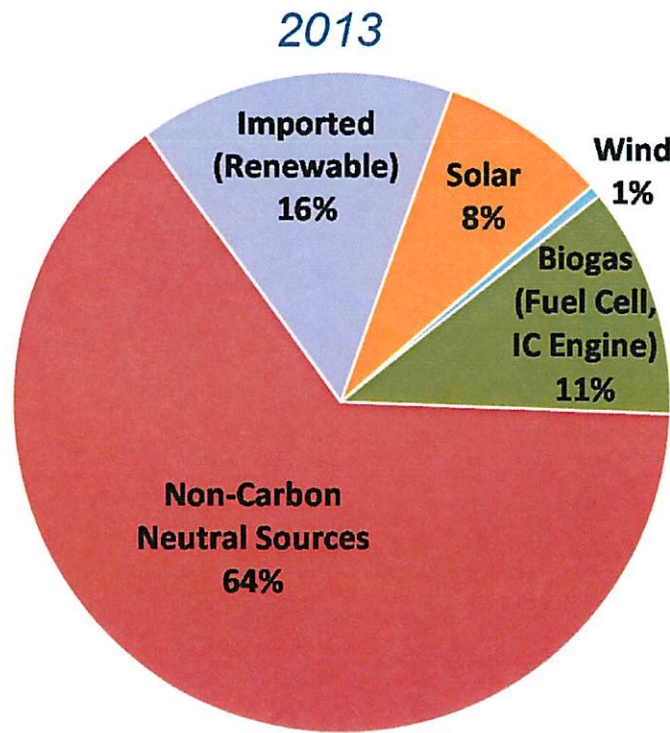
# Forecasting Demands

Information from TYCIP, WFMPs, Short-Term and Long-Term Goals

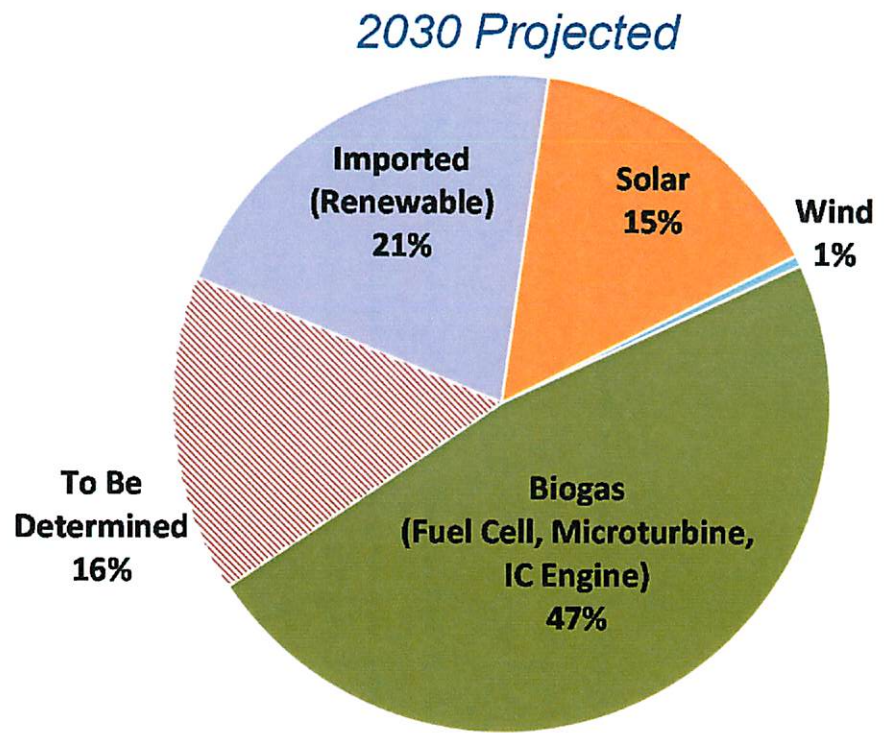


# Carbon Neutral by 2030

- Current planning efforts expected to achieve 84% neutrality
  - Combination of efficiency measures and new renewable
- Future EMPs to identify opportunities to bridge gap



**36% Neutral**

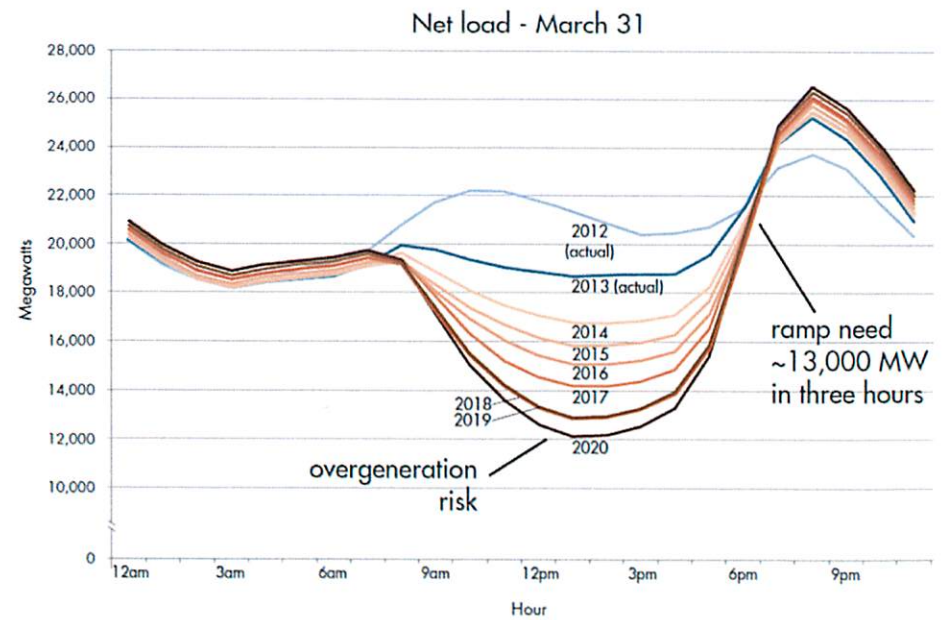


**100% Neutral**



# Policy Tracking

- Partner with Organizations that Track, Impact Regulations
- Incorporate Anticipated Policy Changes into Analysis
  - Pavley SB 471
  - Air Resource Board Short Lived Climate Pollutants
  - CPUC Water/Energy Cost Calculator
  - Duck Curve





# Recent Efforts

- Energy Audits Completed and Efficiency Measures Identified
  - Lighting retrofit to begin in first quarter 2016
  - Pump optimization to begin in first quarter 2016
- Energy Storage Agreement in development
  - RP-5 installation to be completed by first quarter 2016
- Microturbine Project Under Evaluation

# Next Steps

- Implement Goals and Strategies Identified
- Complete Programmatic EIR – Summer 2016
- Update the EMP every two years – 2017

*This project meets the Agency's Business Goal of Energy Management and Wastewater Management by optimizing facility energy use and effectively managing renewable resources.*



# Questions

**INFORMATION**

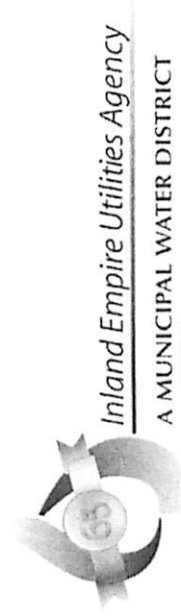
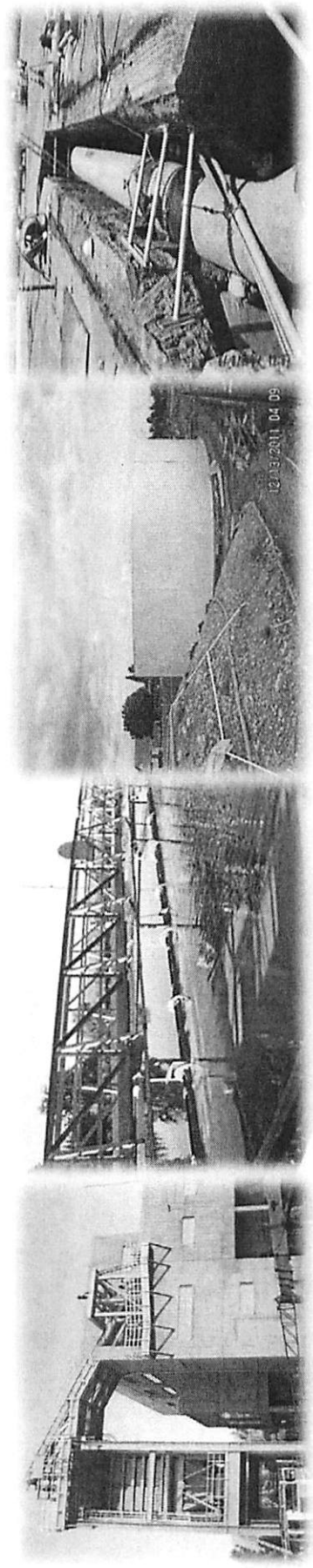
**ITEM**

**2B**



# Engineering and Construction Management Project Updates

## December 2015

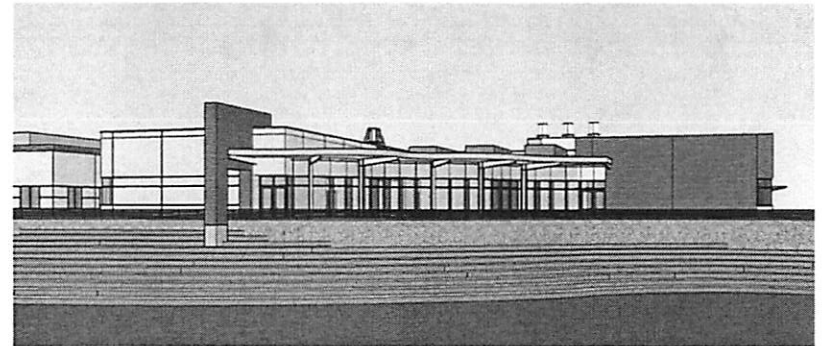


Shaun Stone, P.E.  
Manager of Engineering

John Scherck,  
Acting Deputy Manager of Construction Management

# EN15008 - Water Quality Laboratory

- Engineering Consultant: The Austin Company
- Current contract: \$1.35 M
- Total project budget: \$21 M
- Scope of Work: Design and construction of new water quality laboratory
- Current Activities:
  - Laboratory – 85% design complete
  - Central Plant – 85% design review
  - Solar system investigation/evaluation
  - Control system coordination and interface
- Focus Points:
  - Site coordination/potholing (gas, power, water, control, etc.)
  - Construction cost estimate review/update
  - Pre-qualification of contractors ongoing
  - Coordinate State Labor Compliance requirements



Lab Rendering

# EN16049 – Conference Rooms Audio-Visual Upgrades

- Contractor: TBD
- Current Contract: N/A
- Total Project Budget: \$700 K
- Scope of Work:
  - Evaluate current and future AV needs
  - Develop functional specifications and cost estimates
  - Design and install 12 new AV systems
- Current Activities:
  - Request for proposals for functional specification
  - Pre-bid meeting for prospective consultants
- Focus Point:
  - Selection of technical consultant



Board Member Audio Visual



Event Center

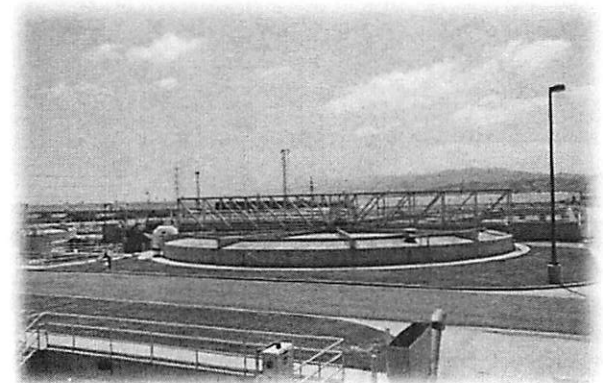


# EN16025 & EN16028 RP-1 and RP-5 Expansion

- Engineering Consultant: TBD
- Total Project Budget: \$3M
- Scope of Work:
  - RP-5 Liquids Treatment Expansion includes:
    - Liquid treatment system alternatives
    - Advanced water treatment business case evaluation (BCE)
    - Methodology for Membrane Bioreactor System (MBR) BCE and selection
  - RP-1 Liquids & Solids Treatment Expansion includes:
    - Liquid treatment system alternatives
    - RP-1 solids treatment systems alternative technologies BCE
    - Project site layout and ultimate site layout

## Current Activities:

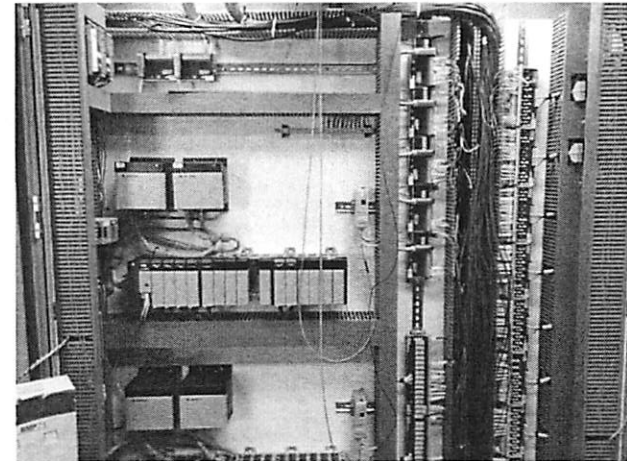
- Advertised RFP for PDR
- Proposal evaluation, interviews and contract negotiation
- Focus Point:
  - Consultant selection
  - Prepare PDR contract for Board award consideration



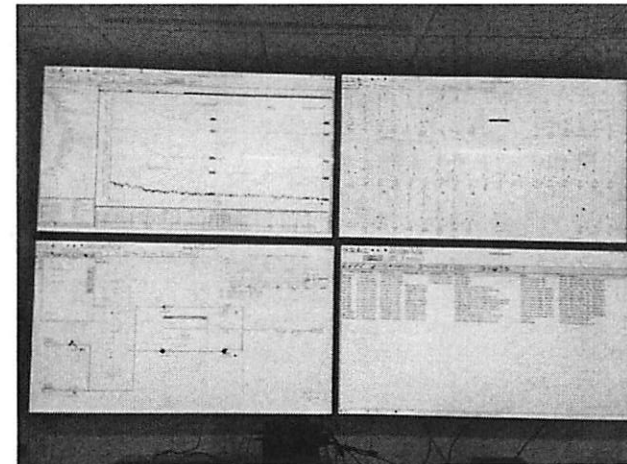
RP-5 Facility

# EN13016 – SCADA Enterprise System CCWRF

- Contractor: Technical Systems, Inc.
- Current Contract: \$2.5 M
- Total Project Budget: \$10.3 M
- Scope of Work: Migration of existing control system to modern SCADA system at CCWRF
- Current Activities:
  - Finalization of headworks transition
  - Pre-transition walkthroughs on remaining control panel locations
  - Proceeding with aeration transition
  - Finalization of control room screens
- Contract Completion: February 2016
- Percent Complete: 75%
- Focus Point:
  - Completed headworks transition



Headworks Control Panel



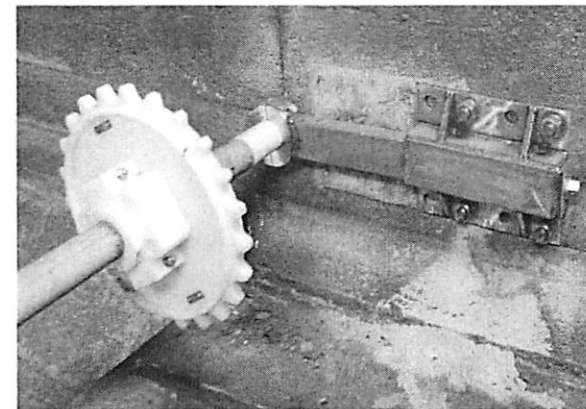
Control Room Screens

# EN08023.06 RP-1 Primary Clarifier 2015 Rehab Project

- Contractor: J.R. Filanc
- Current Contract Value: \$784 K
- Total Project Budget: \$6 M
- Scope of Work: Replace equipment in 4 clarifiers
- Current Activities:
  - Replacing steel return rails
- Contract Completion: January 2016
- Percent Complete: 85%
- Focus Points:
  - Testing clarifiers 1 & 3



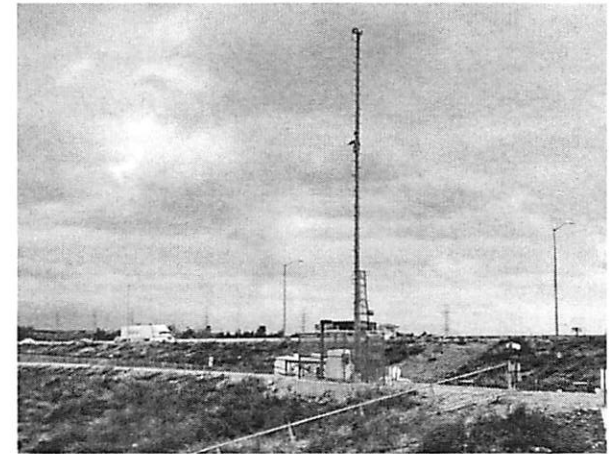
Clarifier Chain and Flight



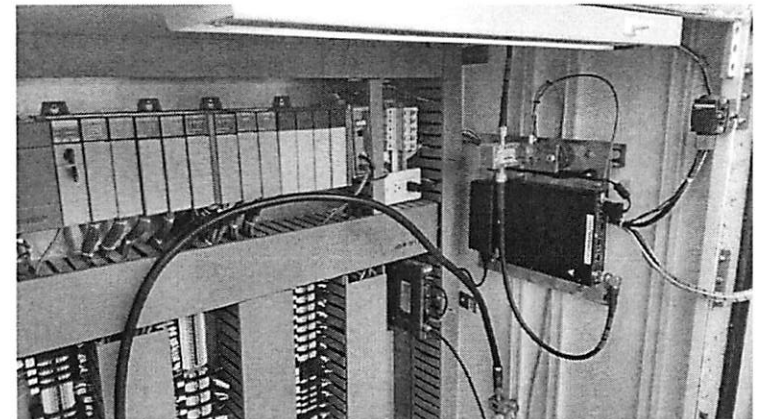
Clarifier Chain Tension Arm and Sprocket

# EN12019 GWR and RW Communication System Upgrades

- Contractor: Sun Wireless
- Current Contract Value: \$900 K
- Total Project Budget: \$1.6 M
- Scope of Work: Upgrade all existing radio and antenna for remote Agency sites
- Current Activities:
  - Transition from old to new system
- Contract Completion: December 2015
- Percent Complete: 90%
- Focus Points:
  - Final testing and commissioning



Victoria Basin Communication Tower



New Radio Installation @ Hickory Basin