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# MEMORANDUM

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Date: August 27, 2015

To: The Honorable Chair and Members  
Pima County Board of Supervisors

From: C.H. Huckelberry  
County Administrator

A handwritten signature in black ink, appearing to read "CHH", is written over the printed name "C.H. Huckelberry".

Re: **Regional Wastewater Reclamation Department (RWRD) - Energy Cost and Efficiency**

Due to the Board of Supervisors' continued interest in RWRD's energy costs and efficiency, attached is recent information regarding related cost savings and a cash rebate the department has received from Tucson Electric Power (TEP) for their energy reduction efforts.

A very extensive third party audit was performed for both the Tres Ríos and Agua Nueva Water Reclamation facilities to determine the value of energy efficient equipment put in place as part of the Regional Optimization Master Plan (ROMP) project. It was determined that the energy efficient equipment Variable Frequency Drives (VFDs), fine bubble diffusers, high-speed turbo blowers, etc. saved over 3,500,000 kWh of electrical energy per year.

As a result of this third party audit, TEP awarded RWRD a \$352,000 rebate check. I have attached some of the documentation for reference. This audit considered electrical energy only; the natural gas energy savings, which was even greater, was not included in the audit results.

Additionally, with respect to energy cost savings, RWRD asked the Board of Supervisors in August 2014 for permission to switch Tres Ríos from rate LLP-14 to a more favorable rate. The Board approved the Department's request to enter into a one-year contract with TEP to be billed under the time-of-use rate LLP-90. In the first 11 months of being on the LLP-90 rate, RWRD has saved \$268,000, well over the conservative estimate of \$168,000 the department provided to the Board in August 2014.

CHH/mjk

## Attachments

c: John M. Bernal, Deputy County Administrator for Public Works  
Jackson Jenkins, Director, Regional Wastewater Reclamation Department

**TRES RIOS WRF**  
**COST ON PRESENT TEP RATE LLP-90 VS PREVIOUS RATE LLP-14**

MONTH	JULY 2015
MONTHLY ON-PEAK DEMAND (KW)	4,070
MONTHLY OFF-PEAK DEMAND (KW)	4,070
MONTHLY USAGE (kWh)	2,428,954
DAYS	30
LOAD FACTOR	0.83
<i>summer percent</i>	
<i>winter percent</i>	
<b>LLP-90 (PRESENT RATE)</b>	
<b>DELIVERY SERVICES</b>	
Customer Charge	\$ 2,000
DEMAND - Summer On Peak - kW @ \$20.49	\$ 83,394
DEMAND - Winter On Peak - kW @ \$15.49	
Power Factor Adjustment	\$ 591
Summer On Peak - kWh @ \$0.0069	\$ 2,920
Summer Off Peak - kWh @ \$0.0065	\$ 13,038
Winter On Peak - kWh @ \$0.0075	
Winter Off Peak - kWh @ \$0.0071	
<b>POWER SUPPLY CHARGES</b>	
Summer On Peak - kWh @ \$0.045568	\$ 19,281
Summer Off Peak - kWh @ \$0.023985	\$ 48,110
Winter On Peak - kWh @ \$0.029581	
Winter Off Peak - kWh @ \$0.024352	
PPFAC - @ \$0.00682 per kWh	\$ 16,565
<b>GREEN ENERGY CHARGES</b>	
Renewable Energy Standard Tariff	\$ 8,000
DSM Surcharge 2.5479% of \$191,583.03	\$ 4,584
ECA Surcharge - kWh @ \$0.000049	\$ 464
Customer Charge Credit	
PPFAC credit	
SUBTOTAL	\$ 198,947
TAXES AT 10.82 %	\$ 21,528
<b>TOTAL</b>	<b>\$ 220,475</b>
COST PER kWh	\$ 0.0908
<b>LLP-14 (PREVIOUS RATE)</b>	
<b>DELIVERY SERVICES</b>	
Customer Charge	\$ 2,000
DEMAND CHARGE - kW @ \$21.98	\$ 89,459
Power Factor Adjustment	\$ 591
SUMMER ENERGY CHARGE- kWh @ \$0.0032	\$ 7,773
WINTER ENERGY CHARGE- kWh @ \$0.0021	
<b>POWER SUPPLY CHARGES</b>	
SUMMER BASE POWER CHARGE - kWh @ \$0.031611	\$ 76,782
WINTER BASE POWER CHARGE - kWh @ \$0.028388	
PPFAC - @ \$0.00682 per kWh	\$ 16,565
<b>GREEN ENERGY CHARGES</b>	
Renewable Energy Standard Tariff	\$ 8,000
DSM Surcharge 2.5479%	\$ 4,584
ECA Surcharge - kWh @ \$0.000049	\$ 464
Customer Charge Credit	\$ -
PPFAC credit	\$ -
SUBTOTAL	\$ 206,217
TAXES AT 10.82 %	\$ 22,315
<b>TOTAL</b>	<b>\$ 228,532</b>
COST PER kWh	\$ 0.0941
<b>AMOUNT SAVED ON LLP-90 THIS MONTH</b>	<b>\$ 8,058</b>
<b>TOTAL SAVINGS SINCE GOING TO LLP-90</b>	<b>\$ 268,478</b>



## **BOARD OF SUPERVISORS AGENDA ITEM SUMMARY**

Requested Board Meeting Date: August 5, 2014

### **ITEM SUMMARY, JUSTIFICATION &/or SPECIAL CONSIDERATIONS:**

In February 2013, the Tres Rios Wastewater Reclamation Facility (WRF) entered into an agreement with Tucson Electric Power Company (TEP) to be charged for electricity services at the LLP-14 rate schedule. On-going utility analysis, while the upgraded facility has come on-line, shows that even further savings in electricity costs can be realized under the LLP-90 rate schedule. The attached graph (Attachment A), shows that an estimated \$14,000 per month (\$168,000 annually) savings can be realized under the LLP-90 schedule.

This contract amendment would place the Tres Rios WRF under the LLP-90 rate schedule.

CONTRACT NUMBER (If applicable): CT # 13\*359

### **STAFF RECOMMENDATION(S):**

Staff recommends that the Board approve the contract amendment that will allow electricity charges for the Tres Rios Wastewater Reclamation facility to be billed at the LLP-90 rate schedule.

CORPORATE HEADQUARTERS: \_\_\_\_\_

CLERK OF BOARD USE ONLY: BOS MTG. \_\_\_\_\_

ITEM NO. \_\_\_\_\_

**PIMA COUNTY COST:** approximately \$2.9 million per year for electricity costs at Tres Rios WRF

**FUNDING SOURCE Enterprise Fund**  
(i.e. General Fund, State Grant Fund, Federal Fund, Stadium D. Fund, etc.)

**Advertised Public Hearing:**

		YES	X	NO
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**Board of Supervisors District:**

1		2		3		4		5		All	X
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**IMPACT:**

**IF APPROVED:**

The Tres Rios WRF electricity costs through TEP will be charged under the LLP-90 rate schedule, resulting in an estimated monthly savings of \$14,000.00

**IF DENIED:**

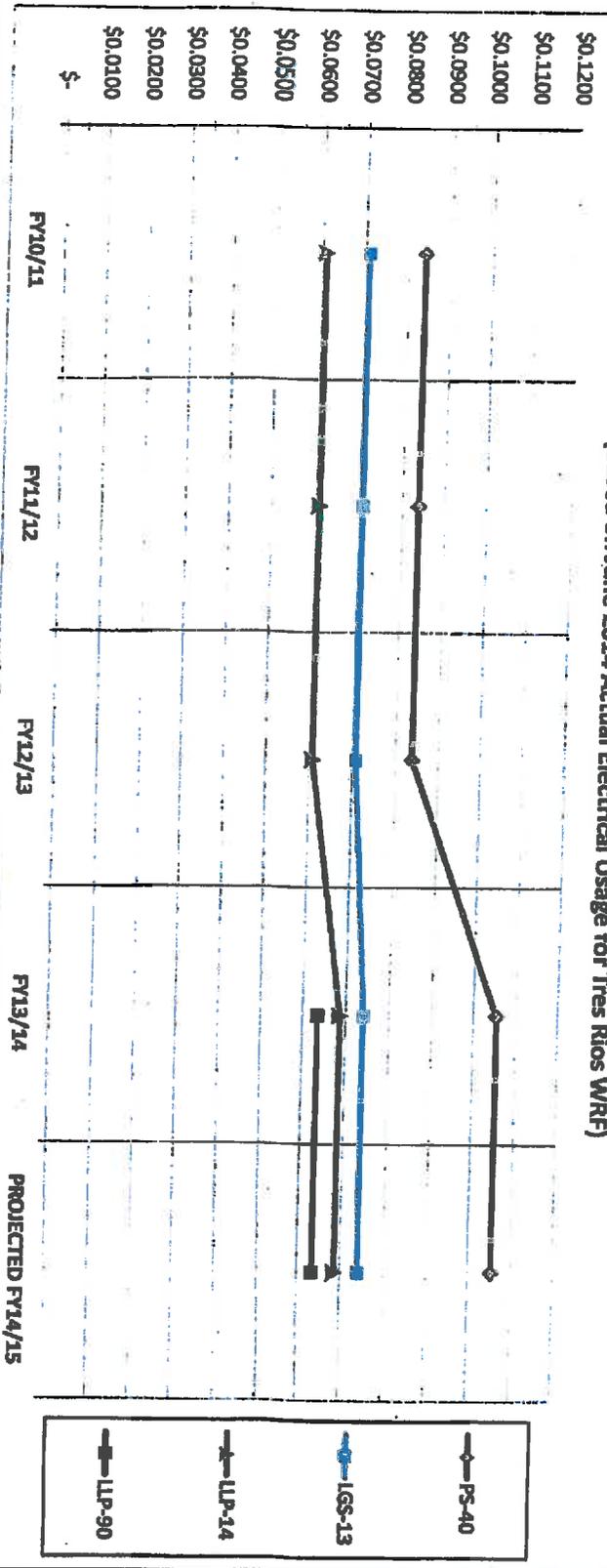
The Tres Rios WRF will continue to be charged under the LLP-14 rate schedule with TEP; no additional savings in electrical costs will be realized.

DEPARTMENT NAME: Regional Wastewater Reclamation Department (RWRD)

CONTACT PERSON: Marla Berry TELEPHONE NO.: 724-6181

### TEP BASE RATE COST PER KWH

(Based on June 2014 Actual Electrical Usage for Tres Rios WRF)



RATE	AVERAGE MONTHLY BASE RATE COST (Peak Demand = 4,500 KW, Usage = 2,720,000 kWh)				
	FY10/11	FY11/12	FY12/13	FY13/14	PROJECTED FY14/15
PS-40	\$ 0.0838	\$ 0.0838	\$ 0.0838	\$ 0.1054	\$ 0.1054
LGS-13	\$ 0.0707	\$ 0.0707	\$ 0.0707	\$ 0.0740	\$ 0.0740
LLP-14	\$ 0.0608	\$ 0.0608	\$ 0.0608	\$ 0.0687	\$ 0.0687
LLP-90	\$ 0.0608	\$ 0.0608	\$ 0.0608	\$ 0.0634	\$ 0.0634
<b>Usage</b>					
PS-40	227,936	227,936	227,936	286,688	286,688
LGS-13	192,376	192,376	192,376	201,361	201,361
LLP-14	165,304	165,304	165,304	186,766	186,766
LLP-90	165,304	165,304	165,304	172,361	172,361

Peak Demand 4,500 KW Peak Demand (Actual June 2014)  
 Usage 2,720,000 kWh per Month (Actual June 2014)

By changing from LLP-14 to LLP-90 we anticipate saving an average of \$14,000 per month, or approximately \$168,000 per year.

**NOTE: Base rate does not include DSM, PPFAC, REST charges or Taxes which typically add approximately 20% to the base rate charges**  
 DSM = Demand Side Management surcharge, PPFAC = Purchased Power Fuel Adjustment Clause, REST = Renewable Energy Standard Tariff.



88 E. Broadway Blvd.  
Mail Stop HQW 505  
Tucson, AZ 85701

December 15, 2014

Eric Nelson  
PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPT  
130 W Congress St, 7th Floor  
Tucson, AZ 85701

RE: TEP Commercial Energy Solutions Project ID#: TEP-13-01692  
Application Type: LB Custom Retrofit  
Project Name: Tres Rios (Ina Rd) & Agua Nueva Waste Treatment

Dear Eric Nelson,

Thank you for participating in the TEP Commercial Energy Solutions program. Enclosed is the rebate check issued to PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPT in the amount of \$351,996.99.

We appreciate your interest in the TEP Commercial Energy Solutions program and your efforts to help conserve energy in Arizona. If you have questions or are interested in pursuing other energy efficiency projects at your facility, contact the program team at (866) 324-5506 or send an email to [ces@tep.com](mailto:ces@tep.com).

Sincerely,

A handwritten signature in blue ink that reads "David Couture". The signature is fluid and cursive, with a large initial "D" and "C".

David Couture  
Manager, Key Account Services & Economic Development  
Tucson Electric Power Company

**TEP EasySave Plus**

**Custom Incentive Worksheet**

Project Name:	Tres Rios and Agua Nueva WW improvements	TEP Account No:	
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Please attach supporting documents as described in the specifications. Do not use this form for projects where a custom worksheet is available (custom lighting, heat exchangers, packaged dx energy management systems, etc). Applications using this form where specific worksheets exist will require a resubmittal using the applicable worksheet.

Item 1	Description	Rebate: \$0.10 /kWh	
	<b>Retrofit and replacement of Interconnected Pima County Water Reclamation Facilities (Tres Rios and Agua Nueva). Project resulted in increased capacity and reduced energy use intensity per Million Gallons treated while improving treatment quality of wastewater to exceed currently mandated guidelines.</b>	<b>Annual kWh Savings</b>	<b>Rebate Subtotal</b>
		3,519,970	\$351,996.99
		<b>kW Savings</b>	
		401.8	
		<b>Annual Oper. Hrs</b>	
		8,760	
		<b>Measure Cost</b>	
		\$2,648,529.06	

*Enter Operating Schedule and Days Closed Below*

Day of Week	Start Time	End Time	Total Hours		
Monday	12:00 AM	12:00 AM	24.00	0.00	Days Closed per Year
Tuesday	12:00 AM	12:00 AM	24.00		Weeks Closed per Year
Wednesday	12:00 AM	12:00 AM	24.00		
Thursday	12:00 AM	12:00 AM	24.00		Weeks/Year <b>52.14</b>
Friday	12:00 AM	12:00 AM	24.00		Hours/Week <b>168.00</b>
Saturday	12:00 AM	12:00 AM	24.00		Calculated Hours/Year <b>8760.02</b>
Sunday	12:00 AM	12:00 AM	24.00		

Item 2	Description	Rebate: \$0.10 /kWh	
		<b>Annual kWh Savings</b>	<b>Rebate Subtotal</b>
		<b>kW Savings</b>	
		#DIV/0!	
		<b>Annual Oper. Hrs</b>	
		0	
		<b>Measure Cost</b>	

*Enter Operating Schedule and Days Closed Below*

Day of Week	Start Time	End Time	Total Hours		
Monday			0.00	0.00	Days Closed per Year
Tuesday			0.00		Weeks Closed per Year
Wednesday			0.00		
Thursday			0.00		Weeks/Year <b>0.00</b>
Friday			0.00		Hours/Week <b>0.00</b>
Saturday			0.00		Calculated Hours/Year <b>0.00</b>
Sunday			0.00		

<b>Project Completion Date</b>

<b>Page 1 Custom Rebate SubTotal</b>	<b>\$351,996.99</b>
<b>Custom Rebate Total</b>	<b>\$351,996.99</b>