ATTACHMENT 2
STATUS OF ENERGY OPTIMIZATION PLAN

Energy Efficiency - Anderson Hydro Facility						
No.	**Project / Measure**	**Recommendation**	**Energy (MWh/Yr)**	**Estimated Cost**	**Completion Date (* projected)**	**Status (October 2015)**
1	**Anderson Hydro** Continue to perform preventive maintenance and update operational procedures to optimize generation and improve reliability	Implement	N/A	As part of existing O&M tasks	On-Going	*In progress*

Energy Efficiency – Pumping Plants						
No.	**Project / Measure**	**Recommendation**	**Energy (MWh/Yr)**	**Estimated Cost**	**Completion Date (* projected)**	**Status (October 2015)**
2	**Pacheco** Investigate optimizing air cooling flow in the Electrical Room	Perform investigation	TBD	$4,000	FY16*	*In progress*
3	**Pacheco** Operate more efficient pumps at PPP and manage pump operations closer to full speed	Implement	3,196	$17,500	FY15	**Complete**
4	**Pacheco** Provide Operators via SCADA a display of wire to water efficiency for the pumping plant. This will allow for feedback on strategies that have an impact on energy use.	Implement	N/A	$3,000	FY15	**Complete**

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Energy Efficiency – Pumping Plants						
No.	**Project / Measure**	**Recommendation**	**Energy (MWh/Yr)**	**Estimated Cost**	**Completion Date (* projected)**	**Status (October 2015)**
5	**Pacheco** Replace lights with energy efficient types.	Implement	3.12	$23,000	FY15	**Complete**
6	**Coyote** Investigate HVAC Control setting	Perform investigation	TBD	$3,000	FY16*	*In progress*
7	**Coyote** Investigate optimizing air cooling flow in the Electrical Room	Perform investigation	TBD	$3,000	FY16*	*In progress*
8	**Coyote** Investigate pump curves and system operation to optimize pumping efficiency.	Perform investigation	TBD	$6,000	FY16*	*In progress*
9	**Coyote** Provide Operators via SCADA a display of wire to water efficiency for the pumping plant. This will allow for feedback on strategies that have an impact on energy use.	Perform investigation	TBD	$3,000	FY14	**Investigation Complete** (implementation dependent on completion of ASD upgrade project)
10	**Coyote** Install occupancy sensors on lighting systems to turn off fluorescent lights when building is unoccupied.	Implement	0.5	$6,000	FY16*	*In progress*
11	**Coyote** Investigate replacing existing lights with high energy efficient ones.	Perform investigation	TBD	$6,000	FY15	**Complete**

ATTACHMENT 2
STATUS OF ENERGY OPTIMIZATION PLAN

Energy Efficiency – Pumping Plants						
No.	**Project / Measure**	**Recommendation**	**Energy (MWh/Yr)**	**Estimated Cost**	**Completion Date (* projected)**	**Status (October 2015)**
12	**Coyote** Evaluate installation of higher efficiency variable speed drives	Perform investigation	TBD	$6,000	FY13	**Investigation Complete** (CPP ASD upgrade project has been validated – awaiting funds)
13	**Coyote** Investigate HVAC system replacements.	Perform investigation	TBD	$6,000	FY13	**Investigation Complete** (HVAC to be replaced during CPP ASD upgrade project)

Energy Efficiency – Treatment Plants						
No.	**Project / Measure**	**Recommendation**	**Energy (MWh/Yr)**	**Estimated Cost**	**Completion Date (* projected)**	**Status (October 2015)**
14	**Rinconada** Investigate filter media backwashing operations to enhance filter runs.	Perform investigation	TBD	$6,000	TBD	*Deferred* (until during/after RWTP RIP construction and commissioning)
15	Review flow requirements for the plant water system to see if pressure settings or number of pumps running can be reduced during the day or during periods of low demand.	Perform investigation	TBD	$4,000	TBD	*Deferred* (until during/after RWTP RIP construction and commissioning)

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STATUS OF ENERGY OPTIMIZATION PLAN

Energy Efficiency – Treatment Plants						
No.	**Project / Measure**	**Recommendation**	**Energy (MWh/Yr)**	**Estimated Cost**	**Completion Date (* projected)**	**Status (October 2015)**
16	**Rinconada** Investigate Operations Building HVAC control settings and temperature adjustment during the day.	Perform investigation	TBD	$6,000	TBD	*Deferred* (until during/after RWTP RIP construction and commissioning)
17	**Rinconada** Modify operation of the Rinconada Finished Water Booster System to keep the VFD driven pump above 80 percent speed which is a more efficient operating point	Perform investigation	TBD	$500	TBD	*Deferred* (until during/after RWTP RIP construction and commissioning)
18	**Rinconada** Investigate replace older motors on equipment with new motors with higher efficiency where applicable.	Perform investigation	TBD	$4,000	TBD	*Deferred* (until during/after RWTP RIP construction and commissioning)
19	**Rinconada** Investigate Operations Building HVAC system replacements.	Perform investigation	TBD	$8,000	FY16*	Not started (to be performed after completion of RWTP Seismic Upgrade Project)
20	**Santa Teresa** Investigate Operations Building HVAC control settings.	Perform investigation	TBD	$4,000	FY16*	*In progress*
21	**Santa Teresa** Prevent plant water pumping system from cycling on and off so often (e.g. hydro pneumatic system tune-up).	Implement	2.0	$8,000	FY13	**Complete**

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STATUS OF ENERGY OPTIMIZATION PLAN

Energy Efficiency – Treatment Plants						
No.	**Project / Measure**	**Recommendation**	**Energy (MWh/Yr)**	**Estimated Cost**	**Completion Date (* projected)**	**Status (October 2015)**
22	**Santa Teresa** Perform maintenance on all ozone generators and replace dielectrics, operate the ozone systems at the highest ozone concentration possible while maintaining the minimum gas flows requirements	Perform investigation	TBD	$4,000	FY16*	*In progress*
23	**Santa Teresa** Investigate optimization of backwash set points to reduce energy usage (reduce backwash duration, flow rate and filter to waste volume)	Perform investigation	TBD	$4,000	FY16*	*In progress*
24	**Santa Teresa** De-energize equipment not needed	Implement	0.5	$2,500	FY14	**Complete**
25	**Santa Teresa** Evaluate the frequency and duration of backwash operations for filter cleaning to see if this can be optimized.	Perform investigation	TBD	$4,000	FY16*	*In progress*
26	**Santa Teresa** Investigate ways to optimize backwashing pumping operations including operation at BEP.	Perform investigation	TBD	$3,000	FY16*	*In progress*
27	**Santa Teresa** Replace lights with energy efficient types in Operations Building and around the site.	Implement	0.6	$50,000	FY16*	*In progress*

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STATUS OF ENERGY OPTIMIZATION PLAN

Energy Efficiency – Treatment Plants						
No.	**Project / Measure**	**Recommendation**	**Energy (MWh/Yr)**	**Estimated Cost**	**Completion Date (* projected)**	**Status (October 2015)**
28	**Santa Teresa** Investigate replacement of older motors with new higher efficiency motors (Example, flocculation mixer motors)	Perform investigation	TBD	$4,000	FY15	**Investigation Complete** (upgrades to premium efficiency motors to occur through on-going maintenance and capital projects)
29	**Santa Teresa** Investigate Operations Building HVAC system replacements.	Perform investigation	TBD	$8,000	FY16*	*In progress*
30	**Penitencia** Investigate Ozone Generation Building HVAC control settings.	Perform investigation	TBD	$4,000	FY16*	*In progress*
31	**Penitencia** Investigate Ozone Generation Building air flow.	Perform investigation	TBD	$3,000	FY16*	*In progress*
32	**Penitencia** De-energize equipment not needed	Implement	1.0	$1,500	FY14	**Complete**
33	**Penitencia** Investigate plant water pumping system to utilize newer pumps.	Perform investigation	N/A	$6,000	FY13	**Investigation Complete** (system upgrades to be installed during PWTP Water Pumps Modification project)

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STATUS OF ENERGY OPTIMIZATION PLAN

Energy Efficiency – Treatment Plants						
No.	**Project / Measure**	**Recommendation**	**Energy (MWh/Yr)**	**Estimated Cost**	**Completion Date (* projected)**	**Status (October 2015)**
34	**Penitencia** Perform maintenance on all ozone generators and replace dielectrics, operate the ozone systems at the highest ozone concentration possible while maintaining the minimum gas flows requirements	Implement	TBD	$4,000	FY16*	*In progress*
35	**Penitencia** Investigate optimization of backwash set points to reduce energy usage (reduce backwash duration, flow rate and filter to waste volume, increase the target filter head pressure that triggers the backwash process, consider influent characteristics and number of optimal duty filters)	Perform investigation	TBD	$3,000	FY16*	*In progress*
36	**Penitencia** Investigate replacement of older motors with new higher efficiency motors (Example, rapid and flocculation mixer motors)	Perform investigation	TBD	$3,000	FY15	**Investigation Complete** (upgrades to premium efficiency motors to occur through on-going maintenance and capital projects)
37	**Penitencia** Investigate using VFD on reclaim pump instead of throttling valve to control flow.	Perform investigation	TBD	$4,000	FY16*	Not started

ATTACHMENT 2
STATUS OF ENERGY OPTIMIZATION PLAN

Energy Efficiency – Buildings						
No.	**Project / Measure**	**Recommendation**	**Energy (MWh/Yr)**	**Estimated Cost**	**Completion Date (* projected)**	**Status (October 2015)**
38	**HQ** Add hot water reset to boiler	Implement	0	$3,000	FY13	**Complete**
39	**HQ** Replace outdoor lighting with energy efficient technologies	Implement	3.0	$35,000	FY16*	Not started
40	**HQ** Replace existing HVAC control system with same as used throughout the rest of the campus **HQ** Add CO2 sensors to control intake air	Implement	5.0	$310,000	FY15	**Complete**
41	**HQ** Cooling Tower Replacement with new CVHS chiller	Perform investigation	TBD	$4,000	FY16*	Not started
42	**HQ** Replace chiller	Perform investigation	TBD	$4,000	FY16*	Not started
43	**HQ** Add VFDs on chilled and heating water pumping systems	Perform investigation	TBD	$5,000	FY16*	Not started

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STATUS OF ENERGY OPTIMIZATION PLAN

Energy Efficiency – Buildings						
No.	**Project / Measure**	**Recommendation**	**Energy (MWh/Yr)**	**Estimated Cost**	**Completion Date (* projected)**	**Status (October 2015)**
44	**HQ** Replace lighting controls system	Implement	5.0	$15,000	FY14	**Complete**
45	**HQ** Install sub-metering for the individual buildings fed by the Headquarters Bldg service to support detailed evaluation of building energy use	Implement	0	$50,000	FY13	**Complete**
46	**HQ** Replace Boiler	Implement	0	$100,000	FY14	**Complete**
47	**Admin** Add hot water reset to boiler	Implement	0	$2,500	FY13	**Complete**
48	**Admin** Replace outdoor lighting with equivalent higher efficiency technologies	Implement	2	$20,000	FY16*	Not started
49	**Admin** Install sub-metering for the individual buildings to support detailed evaluation of building energy use	Implement	0	$50,000	FY13	**Complete**
ESTIMATED TOTAL			**3,219**	**$833,500**		

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