

**JOINT MEETING
CITY OF MORRO BAY AND CAYUCOS SANITARY DISTRICT
WASTEWATER TREATMENT PLANT
(UNDER JOINT POWERS AGREEMENT)**

Cayucos Sanitary District Board of Directors:

Robert Enns, President
Dan Chivens, Vice-President
Michael Foster, Director
Shirley Lyon, Director
Dan Lloyd, Director

City of Morro Bay City Council:

Jamie Irons, Mayor
Christine Johnson, Vice-Mayor
George Leage, Councilmember
Nancy Johnson, Councilmember
Noah Smukler, Councilmember

AGENDA

MEETING DATE:

6:00 p.m., Thursday, February 13, 2014

HOSTED BY:

Cayucos Sanitary District

MEETING PLACE:

Cayucos Veterans Hall
10 Cayucos Drive
Cayucos, CA 93430

CALL TO ORDER AND ROLL CALL

COUNCIL AND BOARD ANNOUNCEMENTS

PUBLIC COMMENT PERIOD

Members of the audience wishing to address the governing bodies on Morro Bay-Cayucos Wastewater Treatment Plant (WWTP) business matters may do so at this time. By the conditions of the Brown Act, the governing bodies may not discuss issues not on the agenda, but may set items for future agendas. When recognized by the Chair, please come forward to the podium and state your name and address for the record. Comments should be limited to three minutes. All remarks shall be addressed to the governing bodies, as a whole, and not to any individual member thereof. This governing body requests that you refrain from making slanderous, profane, or personal remarks. Please refrain from public displays or outburst such as unsolicited applause, comments, or cheering. Any disruptive activity that substantially interferes with the ability of this governing body to carry out its meeting will not be permitted and offenders will be requested to leave the meeting. Your participation in JPA meetings is welcome and your courtesy will be appreciated.

A. CONSENT CALENDAR

Unless an item is pulled for separate action by the City Council or Cayucos Sanitary District Board, the following items are approved without discussion

A-1 MINUTES OF DECEMBER 12, 2013 JPA MEETING

Recommendation: Approve as submitted

A-2 WWTP OPERATIONS REPORT THROUGH DECEMBER, 2013

Recommendation: Receive and file

A-3 STATUS REPORT ON THE NPDES PERMIT RENEWAL PROCESS

Recommendation: Receive and file

A-4 FINANCIAL STATUS REPORT THROUGH DECEMBER 31, 2013

Recommendation: Receive and file

B. OLD BUSINESS

B-1 STATUS REPORT OF THE MAJOR REPAIR AND MAINTENANCE PLAN (MMRP) FOR THE WWTP

Recommendation: Receive and file

C. NEW BUSINESS

C-1 VERBAL REPORT AND DISCUSSION BY THE CITY AND DISTRICT ON THE PROGRESS OF THE FUTURE WWTP

C-2 AWARD OF CONTRACT TO VULCAN INDUSTRIES, INC. OF MISSOURI VALLEY, IA, FOR THE PROPOSAL NO. MB2014-WW01 HEADWORKS SCREENS EQUIPMENT PROCUREMENT

Recommendation: City and District staff recommends the City Council and Sanitary District Board award the Proposal contract to Vulcan Industries, Inc. in the amount of \$316,280.00

C-3 AWARD OF CONTRACT TO COR-RAY PAINTING COMPANY, OF SANTA FE SPRINGS, CA, FOR THE PROJECT NO. MB-2014-WW02 DIGESTER #2 COATING PROJECT

Recommendation: City and District staff recommends the City Council and Sanitary District Board award the Project contract to Cor-Ray Painting Company in the amount of \$98,920.00

C-4 BUDGET REVISION FOR ELECTRICAL REPAIRS AT THE WWTP

Recommendation: City and District staff recommends reallocation of the funds budgeted for replacement of the biofilter distribution arms to fund electrical repairs at the wwtp

C-5 SCHEDULE NEXT JOINT MEETING AND AGENDA ITEMS

ADJOURNMENT - (Next meeting will be hosted by the City of Morro Bay)

Copies of staff reports and other public documentation relating to each item of business for this meeting are available for inspection at Morro Bay City Hall at 595 Harbor Street and the Cayucos Sanitary District at 200 Ash Ave. A copy of this packet is available from the City of Morro Bay for copying at Mills Copy Center and from the Cayucos Sanitary District for a copy and duplication charge. Any person having questions regarding any agenda items may contact Bruce Keogh, Wastewater Division Manager (City of Morro Bay) at 772-6261 or Rick Koon, District Manager (Cayucos Sanitary District) at 995-3290. In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Public Services' Administrative Technician at (805) 772-6261, or the Cayucos Sanitary District at (805) 995-3290. Notification 24 hours prior to the meeting will enable the City and District to make reasonable arrangements to ensure accessibility to this meeting.

Materials related to an item on this Agenda submitted to the City of Morro Bay or the Cayucos Sanitary District after distribution of the agenda packet are available for public inspection at the scheduled meeting.

President Enns opened Public Comment.

- Richard Sadowski – North Morro Bay. Wants a new Joint Powers Agreement. He says the way the current agreement is written (by a former Cayucos Board member), favors Cayucos. He said back in 2003/2004, he and a coworker videotaped miles of Cayucos infrastructure and made a presentation to FEMA regarding infrastructure damage from the San Simeon earthquake. According to his calculations, the flows based on averages are deceptive.

Hearing no further comments President Enns closed Public Comment.

President Enns welcomed visiting Cambria CSD Board Member, Muril Clift then moved on to the consent calendar.

A. CONSENT CALENDAR

1. MINUTES OF SEPTEMBER 12, 2013 JPA MEETING – Recommend approve as submitted.
2. WWTP OPERATIONS REPORT THROUGH OCTOBER, 2013 – Recommend receive and file.
3. STATUS REPORT ON THE NPDES PERMIT RENEWAL PROCESS – Recommend receive and file.

MORRO BAY MOTION: Councilmember Christine Johnson made a motion to approve Consent Calendar Items. Vice-Mayor Leage seconded. Motion passed (5-0).

CAYUCOS MOTION: Director Lyon made a motion to approve Consent Calendar Items. Vice-President Chivens seconded. Motion passed (3-0).

B. OLD BUSINESS

1. STATUS REPORT OF THE MAJOR REPAIR AND MAINTENANCE PLAN (MMRP) FOR THE WWTP – Recommend receive and file.

Rob Livick discussed highlights from Keogh's status report noting that the focus this past month has been on digester repairs, maintenance procedures for digester #2, looking at preparing the RFP for sandblasting and coating of that same digester, and performing electrical inspections of the plant site.

Report received.

President Enns moved on to Item C-1

C. NEW BUSINESS

1. VERBAL REPORT BY THE CITY AND DISTRICT ON THE PROGRESS OF THE FUTURE WWTP.

Livick discussed Morro Bay's activities with regard to site analysis and potentials for alternative sites. He said they have held a number of public input sessions starting with stakeholder interviews back in July 2013, a public workshop in August 2013, a technical presentation in September 2013, and a second public workshop in November 2013, as well as several City Council meetings. The purpose of the effort was to provide public outreach, identify issues and priorities, and affirm Council's goals for the new water reclamation facility. At their last meeting on December 3, 2013 City Council gave direction to proceed on the new water reclamation facility and confirmed their goals. The goals are the following: production of tertiary disinfected wastewater, the production of reclaimed water for potential users including private and public landscape areas, agriculture or groundwater recharge, bringing that forward with a master water reclamation plan and a construction schedule to phase that reclamation in over time, and to continue to look toward onsite solids handling. The plant should have the ability to: provide energy recovery, treat and address contaminants, and be sensitive to neighbors especially in regard to odor and visual impacts. He said the preferred sites that Council gave direction to look at were the following, in order of priority: 1) sites located in the Morro Valley; 2) those in the Chorro Valley; and 3) sites located within a property known as the "Giannini" site (off Little Morro Creek Road.). The Council also gave direction to pursue a parallel path for analysis of the potential Regional facility at the California Men's Colony treatment plant site and perform due diligence at those preferred sites. Livick said they are to report to Council within 60 days with detailed status and progress update describing where they are in their progress, provide a construction schedule, and a cost estimate.

C. Johnson complimented the report and wanted to clarify that the purpose of a Technical Committee will be to encourage residents and some elected to participate in the process.

Livick confirmed and said the idea is for a Citizens Technical Advisory Committee.

Chivens also complimented the report and stated he is anxious to hear what Morro Bay's consensus is regarding whether they have a specific location that they are interested in. He thinks it would be a great idea to stay teamed up and together. He said as a ratepayer in Cayucos, the potential to have to pay more for this new facility wherever it ends up being, is there, and probably going to happen, but to be able to regionalize it, he likes that idea. He is curious as to which way Morro Bay is leaning toward and when they might know.

Enns presented Cayucos' update and progress. He said they are moving forward with the evaluation of the CMC site as it seems to be the best alternative. He referred to a meeting in March 2013 with RWQCB's Director, Ken Harris where Ken said we need to be thinking regionally, and 75 years out. Thinking along those lines, it appears what might be needed here at this time is an Integrated Regional Management Plan that could concentrate on reducing a reliance on state water.

Smukler asked Enns to elaborate on the concept of the Integrated Regional Management Plan and pointed out that he would like to move forward with those discussions, as they do want to participate.

Enns stated page 49 of their consultant report mentions “hydro geological technical memorandum on the benefits of reclaimed water in the Chorro Valley”. This was puzzling to the Cayucos Board that this was one missing component of his report and they are curious if Morro Bay is planning to pursue that type of technical memorandum in conjunction with either the CMC site or the Chorro Valley site.

Livick said that issue will be examined in some of the follow-up due diligence they would have to do on that facility, and they would be looking to get proposals from hydro geologist firms to look at that analysis. The other issue to be examined is the water rights issue with regards to discharge.

Smukler followed up on Enns’ earlier comment and wanted to know if the Integrated Regional Management Plan he mentioned will involve discussions between staff and CMC or Estero Bay (Morro Bay and Cayucos) separate from CMC.

Koon said that the next steps would be to work with RWQCB and SLO County to get their opinion. With regard to the technical memorandum on the Chorro Valley groundwater, he thinks a key component for the citizens of Morro Bay is to see if its reuse potential proves out, and feels it is something that needs to be done immediately. He added that he hopes they can do this together.

Smukler agreed, saying it is something the Council has expressed as being in support of and that they would like to see that happen as well.

Irons asked to clarify the statement previously made in the report about reducing the reliance on state water for Cayucos and asked Enns to identify all of Cayucos’ water sources.

Enns said that Cayucos does not currently use state water but that Morro Bay does. Enns believes discharges to Chorro Valley from the CMC plant to augment the underground aquifer, would enhance Morro Bay’s ability to utilize their wells that are in that valley that supply the City water, and in so doing could reduce Morro Bay’s reliance on state water.

Smukler commented on the CMC option pointing out that we all know the expense of maintaining the existing plant and time is of the essence as far as moving forward with the new plan. He described his personal patience with the CMC option as being “limited”, saying that as long as it doesn’t start to hold back a viable alternative option, or delay progress forward in another area.

C. Johnson highlighted Smukler’s comment adding that Morro Bay has had a lot of community input and support for the idea of reclaimed water in whatever phase that may come to be a resource for the City. That has been a focus on the Council end because of their reliance on state water.

Enns attended one of Morro Bay’s first workshops where their consultant presented his first public report, which listed the CMC site costing \$160 million. Enns had an opportunity to speak with the consultant Mike Nunley (the engineer who put the costs together). Nunley informed Enns there was roughly \$33 million that included piping back to the Morro Valley and that because of the nature of where they were in the process, the consultant added 30% contingency to the overall cost. WSC’s report showed a cost of \$87 million for both Morro Bay and Cayucos to go to the CMC site. Enns would like the public to know what the elements of the costs are, and not just some lump sum number.

Livick said Enns is correct on the cost analysis numbers, and that there is a 30% contingency on all the projects so if you are going to subtract that on one, you must subtract that same amount on all of them for comparison purposes.

Smukler added that they have thought quite a bit about cost and the affordability component as well as the water recycling and reclamation.

Enns said that with regard to water deliveries to farmers, they do not want the water all the time. Although they certainly would want it this year, they likely would have only taken it two of the last twenty years. They want it when they need it, so Enns doesn't think that they are a reliable source of taking water. He then asked Koon how to go about hiring a consultant to help us understand what the positive benefits of replenishing the aquifer would be.

Koon said the first step is to meet with RWQCB and San Luis Obispo County to sit down and outline what they would want to see in some sort of technical memorandum.

Irons asked Livick to elaborate whether they will start working in a parallel path, or if they will be working together in evaluating the CMC site.

Livick suggested everyone work together on evaluating the CMC site and not duplicate each other's efforts.

Irons asked Livick, regarding Cayucos' suggestions on their pursuit and analysis of the CMC site, how it dovetails into Morro Bay's analysis, and if he is confident the original analysis that he wanted to proceed with will be adequate in conjunction with Cayucos working together.

Livick said yes, it would coincide with their analysis, although there may be a difference of opinion with the engineers as to what components would be needed, and their level of comfort on contingencies.

President Enns opened Public Comment.

- Richard Sadowski – Morro Bay, speaking on behalf of SurfRider. A major concern for SurfRider is the use of the existing outfall. Richard attended a Cayucos workshop regarding the CMC option and what he learned was that the sewage outfall is still part of that CMC option. He says Morro Bay is in a position to gain a lot of side benefits by reclaiming the water.
- Bill Martony – Morro Bay. Says that there is an extreme demand for water as some of the avocado grower's wells are drying up. He says that the problem with the CMC site is that right now, the CFI flow in Chorro Creek is about 0.8cfs and Morro Bay cannot pump their wells until they are 1.4cfs so this recharge from CMC isn't even keeping up with the minimum flow that Morro Bay needs to pump their wells. Secondly, the appropriation rights to the Chorro Valley haven't been approved per Rob Schultz who thought it may take 10 years to get legal approval.

Hearing no further comments President Enns closed Public Comment.

President Enns thanked the Brown Butter Cookie Company and Top Dog Coffee Bar for donating cookies and coffee for the JPA meeting.

Irons asked Council if any further questions or closing comments.

Smukler said the state water project in the Delta, their initial estimates are in the \$20 billion dollar range. He anticipates that all the communities involved with that program will see a very hefty bill coming down to be paid if we want to continue to participate. What we do now may help mitigate the costs we have to pay later.

C. Johnson mentioned that Dianne Feinstein in a letter today urged Governor Brown to declare an emergency drought action for the state of California and the last time there was an emergency drought in California was when Arnold Schwarzenegger declared one back in 2009. That declaration lasted about a year and a half before it was repealed.

Irons stated that he supports the three sites that Council chose, and the report they received from their consultant was laid out in a way that was very informative and met all the goals that were laid out by the community with professional guidance. In an effort to partner in on the research with Cayucos, they added directing their staff to take a parallel path and to explore the CMC Regional option.

2. SCHEDULE NEXT JOINT MEETING AND AGENDA ITEMS

Enns mentioned January 9 2014 will be the next JPA meeting.

Koon suggests holding the date open until we get closer to it.

Irons commented that it would be 60 days before they will have their data and a meeting in February may be more feasible.

Livick agreed with Koon that they should keep January open.

ADJOURNMENT

President Enns adjourned the meeting at 7:08 p.m.

Minutes Recorded and Respectfully Submitted By:

1/22/2014

X



Danielle Crawford
Administrative Services Billing Manager

STAFF REPORT

**MORRO BAY-CAYUCOS J.P.A.
WASTEWATER TREATMENT PLANT**

to: Honorable Mayor and City Council, City of Morro Bay
Honorable President and Board of Directors, Cayucos Sanitary District

from: Bruce Keogh, Wastewater Division Manager

date: February 6, 2014

subject: WWTP Operations Report through December, 2013

recommendation:

This Department recommends this report be received and filed.

fiscal impact:

None

summary:

Attached, find copies of the Morro Bay-Cayucos Wastewater Treatment Plant monthly reports, for November and December 2013 and the WWTP flow summary, through December 2013. This information updates the item from the December 12, 2013 meeting.

The City of Morro Bay-Cayucos Wastewater Treatment Plant

MONTHLY OPERATIONS SUMMARY

NOVEMBER 2013

Flow for the month of November averaged 0.912 Million Gallons per Day (MGD).

Removal of suspended solids ranged from 82.5 % to 90.9 % for the month, with an average removal of 86.3 % for the month. BOD removal ranged from 78.2 % to 85.9 % for the month, with an average removal of 82.2 % for the month. The rainfall for the month was 0.13 inches. For the month of November, the plant was in compliance with the discharge and receiving-water limitations specified in the NPDES discharge permit. Other than normal operations and maintenance, the following items are noteworthy:

During the month of November, staff continued work on the process for repairing and rehabilitating digester #2. Activities included:

- Continued operation of the well pumps in three of the dewatering wells at the plant. The wells lower the ground water levels around digester #2 while repairs are preformed upon the digester.
- Plant staff flushed and then videoed the inside of the piping for the digester gas recirculation system for digester #2. The piping appears to be in good condition with no obstructions or debris.
- Plant staff installed two new underground valves used to transfer sludge from digester #3. They also attempted to retrieve a radio that was inadvertently dropped in the J box on digester #3 that staff believes made its way into the underground piping system used to move sludge throughout the plant. They were unable to locate the radio in the piping that was examined.
- Plant staff continued preparations for removal or rebuilding of numerous valves on digester #2 used to transfer sludge within the digester sludge recirculation system.
- Staff continued with preparations for a RFP for sandblasting and coating the interior of the digester.

On November 12 and 13, Mr. Christopher Kindle, an electrical Engineer from Black & Veatch (B&V) toured the plant to perform an assessment of the plants electrical system and update the Electrical Facilities Overview from the Facility Master Plan (Appendix H of the Facility Master Plan dated September 2007). His tour included plant staff performing the monthly testing of the generator under full load conditions so he could observe the emergency generator automatic switchgear in operation. This assessment of the electrical system will assist staff with putting together a work plan for any recommended repairs and maintenance procedures for the plant's electrical system and assist staff in budgeting for the MMRP in FY14/15. Staff is currently waiting for a copy of the assessment from B&V.

On November 5, staff drained the grit chamber for inspection and maintenance. The chamber appears to be in good condition, a small amount of rags was removed and the tank was refilled and back on-line on November 6.

On November 6, staff from Gleim Crown Pumps installed biofilter recirculation pump #P4502. The pump had been pulled on October 28 for rebuilding. Following installation of pump #P4502, staff from Gleim Crown removed biofilter recirculation pump #P4503 and took it back to their shop for maintenance and rebuilding. Plant staff set up a temporary by-pass pumping line off the secondary effluent pumps to assist in getting additional flow to the biofilters, while the pump is off-line.

On November 13, staff from Gleim Crown installed biofilter recirculation pump #P4503. The pump had been pulled on November 6 for rebuilding. Following installation of pump #P4503, they discovered a severe vibration and had to take the pump back to the shop to determine the cause of the vibration. On November 19, they reinstalled biofilter recirculation pump #P4503. The pump operated as designed with no vibration. The cause of the vibration had been a misalignment between the motor base and the upper motor seat on the pump. Following installation of pump #P4503, they removed biofilter recirculation pump #P4501 for rebuilding.

On November 22, the outfall pipeline and diffuser system was inspected by Carson Porter Diving. They reported that the outfall appears to be in good condition, with no plugged or broken diffusers. They removed the spar buoys used to mark the location of the outfall, so new buoys can be installed along with new ground tackle for the buoys. They also completed the replacement of the bolts on the upper flanges of the diffusers. On November 26, they installed new buoys and ground tackle.

On December 21, staff from Ponton Industries, the factory representative for American Sigma, checked the calibration of the influent flow meter located in the metering manhole on the thirty-inch influent trunk line at the plant. To calibrate the meter, staff plugged the thirty-inch influent trunk line upstream of the twenty-seven inch Palmer-Bowlus flume to calibrate the meter to a zero flow set point. The Calibration Certificate received from Ponton Industries states, "*Read -0.03 inches, Set to 0.00 inch (0.00GPM)*". They also did a comprehensive review of the programming parameters of the American Sigma 980 Flow Meter Totalizer. In addition, they verified the Toshiba magnetic flow meters for the primary sludge flow meter and the Return Activated Sludge flow meter. They also verified the Thermoplysonics Clamp-on Ultrasonic Meter used to record flow to the secondary clarifier.

On November 26, staff from Perrys Motor installed the motor for main influent pump #2 which had been removed on November 20. Staff had discovered a fault with the motor and pump on November 20, and staff from Alpha Electric had confirmed that the motor was not operational due to a problem with the motor windings.

During the month of November, plant staff and staff from Alpha Electric continued to investigate issues associated with the time clocks used to control the scum and sludge pumps. For unknown reasons the clocks have been failing. Staff from Alpha Electric is consulting with the manufacturer of the time clocks for possible corrective actions.

On November 20 and 25, staff from Enns Electric installed new reset buttons on the electrical buckets for all the equipment in MCC-B, MCC-C, MCC-C1, MCC-D, and MCC E. The new reset buttons will allow staff to reset the breakers within the individual buckets without having to open the electrical cabinet reducing plant staffs exposure to energized circuits. The new reset buttons are a component of the Arc Flash program at the plant.

On November 18, staff from Alpha Electric began installation of a new autodialed system used to notify plant staff of after hour emergencies. The new auto dialer will replace an older unit currently in service at the plant. Installation and staff training on the new unit is scheduled to be complete in December.

On November 8, plant staff purchased four new hand held radios for use by plant staff. The new radios will replace existing units currently in service at the plant.

On November 4, plant staff received notice from the California Department of Public Health Environmental Laboratory Accreditation Program (ELAP) that the plant laboratory, "...has been certified as an environmental testing laboratory pursuant to the provisions of the Health and Safety Code...The Certificate shall remain in effect until May 31, 2015 unless it is revoked."

The following reports were submitted to the appropriate agencies:

- The Discharge Monitoring Forms (DMR) for October 2013

The following reports were submitted to the CIWQS electronic reporting system:

- The October 2013 Monthly Monitoring Data
- The Fourth Quarter Receiving – Water Survey, October 2013

On November 6, an operator at the plant injured his back while lifting a large rag ball from the primary clarifier. He was sent for medical attention and is currently on light duty as his back rehabilitates.

On November 13, Mayor Jamie Irons toured the plant to learn more about the Major Maintenance and Repair Projects (MMRP) and to see how the electrical assessment of the plant by B&V was progressing.

The National Estuary Program Volunteer Monitoring Program continued analysis of bacterial samples collected from throughout the watershed in the laboratory at the plant. The volunteers are using space provided in the lab by plant staff.

The permanent household hazardous waste collection facility (PHHWCF) at the plant continued to be well used by the public. Between twenty and fifty participants are using the facility each Saturday.

Bruce Keogh
Wastewater Division Manager

The City of Morro Bay-Cayucos Wastewater Treatment Plant

MONTHLY OPERATIONS SUMMARY DECEMBER 2013

Flow for the month of December averaged 0.900 Million Gallons per Day (MGD).

Removal of suspended solids ranged from 89.4 % to 91.1 % for the month, with an average removal of 90.4 % for the month. BOD removal ranged from 77.9 % to 81.0 % for the month, with an average removal of 79.9 % for the month. The rainfall for the month was 0.06 inches. For the month of December, the plant was in compliance with the discharge and receiving-water limitations specified in the NPDES discharge permit. Other than normal operations and maintenance, the following items are noteworthy:

Between December 11 and December 23, plant staff experienced issues with the main utility and emergency generator main breaker, the switchgear control logic and equipment, and the emergency auxiliary generator. The overall incident(s) were a serious, complex, and lengthy process that impacted critical components required to keep the plant functional and operational. These issues caused the plant to be without electrical power and more importantly unable to supply power from either the utility or emergency generator sources of electrical power for various periods of time
Background:

The wwtp has an emergency generator and switch gear system designed to automatically transfer power to the emergency generator in the event of a power failure and then back to utility power when utility power is restored. The system is also designed to allow for a person to manually transfer the power to the generator or back to utility power in the event the automatic transfer does not occur.

The automatic transfer system involves the two main breakers, the utility and generator breakers, as well a complex logic system to ensure the safe transfer of power and is designed so that the two main breakers do not energize at the same time. Energizing these two breakers at the same time will likely result in a catastrophic event that could damage or destroy vital plant equipment as well as jeopardize the safety of plant personnel. It should be noted that there is a work order for plant staff to test the generator under full load conditions on a monthly basis to ensure proper operation of this system.

The following is a summary of what transpired:

PG&E had provided advanced notice to plant staff that on Wednesday December 11, PG&E would be shutting the power down to the wwtp from 0900 to 1400 hours to perform repairs to the utility power pole that feeds the wwtp. Plant staff made advance preparations to run the emergency generator during this period and planned to use the outage period to perform some maintenance requirements on the generator switchgear that are best accomplished when PG&E power is shut down. The lack of energized equipment reduces the arc flash potential from a level 3 to a level 0 allowing for safer working conditions

Following the completion of the PG&E repairs, Alpha Electrical Services (AES) and plant staff attempted to transfer power from the generator back to utility power. That transfer was not successful, and led AES and plant staff down a two week path of intensive testing and trouble shooting of the power transfer process. During this process they discovered issues with and made repairs where necessary to the utility and emergency generator main breakers, the switchgear control logic and equipment, and ultimately the emergency auxiliary generator

The following discussion highlights the issues, causes, and corrective actions performed by AES and plant staff:

- 1) The existing breaker that was in the utility breaker cubicle has mechanical issues and needs to be repaired and reconditioned.
- 2) AES discovered issues with select pieces of the control system logic that prevented the successful transfer of power between the utility and generator breakers, either automatically or manually. Issues were noted with safety cell switches located within the breaker cubicles and the agastat and time delays within the switch gear logic. AES replaced all the control logic relays, agastat, and time delays as part of this process. They “borrowed” two safety cell switches from spare breaker cubicles and we are currently ordering two new replacements. These issues resulted in staff being unable to switch to either utility power or generator power, resulting in no power to the facility for extended periods of time.
- 3) AES made adjustments to the time delays to ensure that there is adequate time between the breakers opening and closing to prevent both from energizing at the same time. During this process, AES discovered the existing system was not coordinated correctly resulting in the 400amp breaker on the trailer mounted generator tripping to prevent a current overload on the generator during one of the power transfers.
- 4) The emergency generator failed during testing on December 18. This required staff to locate and have a trailer mounted 250kW stand by generator delivered to provide power if needed while the existing generator was repaired. The fault with the existing generator was faulty diodes that were eventually replaced on site.

Operational Strategies

During this two week period plant staff experienced several episodes of between twenty minutes and two and one half hours where the plant was entirely without power. Plant staff devised and implemented operational strategies to ensure continuous efficient performance of the plant. The strategies included closing the main gate to the plant and stacking (storing) influent flow into the plant in the sewer system feeding the plant for brief outages. The other strategy for longer outages was to drain a primary clarifier and to fill the clarifier by pumping to it with a trailer mounted hydraulic pump located in the influent channel. This ensured that no effluent left the plant while the clarifier was being filled. WWTP staff should be commended for their actions in keeping the plant operational and working through these problems in a calm professional manner. Plant staff is currently working with AES and staff at Black & Veatch on recommendations for repairs and/or modifications to the main utility and generator breakers and the switch gear control logic and equipment.

During the month of December, staff continued work on the process for repairing and rehabilitating digester #2.

Activities included:

- Continued operation of the well pumps in three of the dewatering wells at the plant. The wells lower the ground water levels around digester #2 while repairs are preformed upon the digester.
- Plant staff continued with the process for removal or rebuilding of numerous valves on digester #2 used to transfer sludge within the digester sludge recirculation system.
- During the month of December, City and District staff in coordination with Mike Nunley (MKN) finalized and public noticed an RFP on January 5, 2014 for the sandblasting and coating of digester #2. Proposals are due on February 4.

City and District staff in coordination with MKN finalized and public noticed on January 5 an RFP for the procurement of new influent screens and a washer compactor unit at the headworks. After discussion of the various procurement options it was decided to have the City and District procure the influent screens and then have a contractor install the equipment. This option provides for a quicker implementation time line as well as, providing the City and District with more control over the type and manufacturer of the screening equipment. Proposals are due on January 27, 2014.

During the procurement process for the screens, a second RFP will be developed for hiring a contractor to install the screen units. The RFP for hiring the contractor will also include provisions for the purchase and installation of the required equipment for repairs to the chlorine contact tank. This will allow the selected contractor to coordinate the installation of the screens and the chlorine contact tank, and should result in savings to the City and District by reducing mobilization fees, procurement cost and project coordination.

During the month of December, staff received a draft report from the assessment of the plants electrical system conducted by an electrical engineer from Black & Veatch (B&V) on November 12 and 13. This assessment of the electrical system will assist staff with putting together a work plan for any recommended repairs and maintenance procedures for the plant’s electrical system and assist staff in budgeting for the MMRP in FY14/15. Staff has provided

comments to B&V on the draft report and B&V is reviewing those comments at the time this report was prepared. It should be noted that the plant experienced some critical electrical issues during the last two weeks of December that impacted the main plant breakers, the switchgear used to transfer from utility to emergency generator power, and the emergency auxiliary generator itself. Staff is currently working with B&V staff to incorporate any revisions or recommendations in their report resulting from this incident.

On December 4, staff from Gleim Crown Pumps installed biofilter recirculation pump #P4501. The pump had been pulled on November 19 for rebuilding. Following installation of pump #P4501, staff from Gleim Crown removed 3W pump #P7602 and took it back to their shop for maintenance and rebuilding.

On December 9, plant staff replaced the ferrous chloride dosing pump. The existing pump was no longer cost effective to repair.

On December 12, staff installed new check balls and seats on primary scum pump #P3511. They also cleaned the check valve of debris.

On December 3, staff from Alpha Electric assisted plant staff with the installation of a rebuilt motor on the muffin monster grinder unit installed in the influent channel.

On December 17, staff replaced an electronic module in the main control box used to control the residual paced sodium hypochlorite and sodium bisulfite dosing pumps used for disinfection and dechlorination.

On December 3, staff from Alpha Electric replaced the time clock use to control the scum pumps.

The twenty-four hour flow totals reported for December 11 was based on the twenty-four hour flow total recorded on the effluent flow meter that was adjusted using the equation contained in the Recommendations Section of the 2012 Annual Report (page 5-9). The equation is: Estimated Influent = (Effluent meter total * 0.6640) + 0.1647. The errant flow totals recorded on December 11 was due to a loss of power associated with the main breaker and switchgear problems noted above. The temporary loss of power resulted in the flume surcharging. The influent flow meter recorded a twenty-four hour flow total of 1.034 million gallons. The effluent meter recorded a twenty-four hour flow total of 0.996 million gallons. The twenty-four hour flow total for December 11 was calculated as: $(0.996 * 0.6640) + 0.1647 = 0.826$ million gallons.

No value was reported for the total coliform BacT test that was set up on December 18. On December 19, lab staff discovered that the test (three row Multiple Tube Fermentation) had been set up with an incorrect sample volume in the first row of tubes. The test is normally set up with a 10ml sample volume in the first row, the December 18 test had been set up using only a 5ml sample volume. Lab staff finished running the test but did not report it as it does not conform to the techniques described in the 22nd Edition of Standard Methods for the Examination of Water and Wastewater. The result of the December 18 BacT was <2MPN/100 mL.

The following reports were submitted to the appropriate agencies:

- The Discharge Monitoring Forms (DMR) for November 2013

The following reports were submitted to the CIWQS electronic reporting system:

- The November 2013 Monthly Monitoring Data

The National Estuary Program Volunteer Monitoring Program continued analysis of bacterial samples collected from throughout the watershed in the laboratory at the plant. The volunteers are using space provided in the lab by plant staff.

The permanent household hazardous waste collection facility (PHHWCF) at the plant continued to be well used by the public. Between twenty and fifty participants are using the facility each Saturday.

Bruce Keogh
 Wastewater Division Manager
 Lab/C/Bruce/Monthlys/December2013

2011	Total Plant Flow		Cayucos Flow Total			Morro Bay Flow Total			# of days	Dates
	Total Flow	Daily Flow	Total Flow	Daily Flow	%	Total Flow	Daily Flow	%		
JAN	42.33	8 1.366	12.08	9 0.390	28.6%	30.24	9 0.976	71.4%	31	Jan 1-Jan 31, 2011
FEB	35.60	1.271	9.674	0.346	27.2%	25.92	0.926	72.8%	28	Feb 1-Feb 28, 2011

MAR	0 47.88 7 1.545	13.77 0 0.444 28.8%	6 34.11 7 1.101 71.2%	31	March 1 - 31, 2011
APR	38.93 7 1.298	9.117 0.304 23.4%	29.82 0 0.994 76.6%	30	April 1 - April 30, 2011
MAY	37.09 2 1.197	8.704 0.281 23.5%	28.38 8 0.916 76.5%	31	May 1 - 31, 2011
JUNE	37.76 9 1.259	9.381 0.313 24.8%	28.38 8 0.946 75.2%	30	June 1-30, 2011
JULY	43.65 4 1.408	11.18 6 0.361 25.6%	32.46 8 1.047 74.4%	31	July 1-31, 2011
AUG	38.51 8 1.243	9.080 0.293 23.6%	29.43 8 0.950 76.4%	31	August 1-31, 2011
SEPT	33.26 3 1.109	7.526 0.251 22.6%	25.73 7 0.858 77.4%	30	September 1-30, 2011
OCT	33.45 4 1.079	7.597 0.245 22.7%	25.85 7 0.834 77.3%	31	October 1-31, 2011
NOV	33.24 0 1.108	7.589 0.253 22.8%	25.65 1 0.855 77.2%	30	November 1-30, 2011
DEC	32.37 8 1.044	6.982 0.225 21.6%	25.39 6 0.819 78.4%	31	December 1-31, 2011
ANNUAL AVERAGE S	37.84 4 1.244	9.391 0.309 24.6%	28.45 3 0.935 75.4%		
2012	Total Flow Daily Flow	Total Flow Daily Flow %	Total Flow Daily Flow %	# of days	Dates
JAN	34.44 3 1.111	7.444 0.240 21.6%	26.99 9 0.871 78.4%	31	Jan 1-Jan 31, 2012
FEB	30.47 8 1.051	6.440 0.222 21.1%	24.03 8 0.829 78.9%	29	Feb 1-Feb 29, 2012
MAR	33.97 1 1.096	7.711 0.249 22.7%	26.26 0 0.847 77.3%	31	March 1 - 31, 2012
APR	35.52 3 1.184	8.573 0.286 24.1%	26.95 0 0.898 75.9%	30	April 1 - April 30, 2012
MAY	33.39 3 1.077	7.390 0.238 22.1%	26.00 3 0.839 77.9%	31	May 1 - 31, 2012
JUNE	40.10 1 1.337	7.687 0.256 19.2%	32.41 4 1.080 80.8%	30	June 1-30, 2012
JULY	46.98 9 1.516	9.832 0.317 20.9%	37.15 7 1.199 79.1%	31	July 1-31, 2012
AUG	34.34 3 1.108	8.191 0.264 23.9%	26.15 2 0.844 76.1%	31	August 1-31, 2012
SEPT	28.16 7 0.939	6.825 0.228 24.2%	21.34 2 0.711 75.8%	30	September 1-30, 2012
OCT	27.79 3 0.897	6.788 0.219 24.4%	21.00 5 0.678 75.6%	31	October 1-31, 2012
NOV	26.89 2 0.896	6.295 0.210 23.4%	20.59 7 0.687 76.6%	30	November 1-30, 2012
DEC	29.60 8 0.955	8.023 0.259 27.1%	21.58 5 0.696 72.9%	31	December 1-31, 2012
ANNUAL AVERAGE S	33.47 5 1.097	7.600 0.249 22.9%	25.87 5 0.848 77.1%		
2013	Total Flow Daily Flow	Total Flow Daily Flow %	Total Flow Daily Flow %	# of days	Dates
JAN	31.65 4 1.021	8.141 0.263 25.7%	23.51 3 0.758 74.3%	31	Jan 1-Jan 31, 2013
FEB	27.89 0 0.962	6.431 0.222 23.1%	21.45 9 0.740 76.9%	29	Feb 1-Feb 29, 2013

MAR	30.82 7 0.994	7.341 0.237 23.8%	23.48 6 0.758 76.2%	31	March 1 - 31, 2013
APR	28.20 1 0.940	7.122 0.237 25.3%	21.07 9 0.703 74.7%	30	April 1 - April 30, 2013
MAY	28.62 7 0.923	6.310 0.204 22.0%	22.31 7 0.720 78.0%	31	May 1 - 31, 2013
JUNE	29.48 9 0.983	6.493 0.216 22.0%	22.99 6 0.767 78.0%	30	June 1-30, 2013
JULY	34.60 6 1.116	10.28 9 0.332 29.7%	24.31 7 0.784 70.3%	31	July 1-31, 2013
AUG	30.80 8 0.994	8.119 0.262 26.4%	22.68 9 0.732 73.6%	31	August 1-31, 2013
SEPT	27.75 6 0.925	6.769 0.226 24.4%	20.98 7 0.700 75.6%	30	September 1-30, 2013
OCT	27.48 0 0.886	6.529 0.211 23.8%	20.95 1 0.676 76.2%	31	October 1-31, 2013
NOV	27.35 1 0.912	6.628 0.221 24.2%	20.72 3 0.691 75.8%	30	November 1-30, 2013
DEC	27.68 5 0.893	6.340 0.205 22.9%	21.34 5 0.689 77.1%	31	December 1-31, 2013
ANNUAL AVERAGE S	29.36 5 0.963	7.209 0.236 24.4%	22.15 5 0.726 75.6%		

Lab/C/Bruce/JPA/2013 meetings/December 12, 2013 meeting/JPA February 13 2014 Ops Summary.

STAFF REPORT

**MORRO BAY-CAYUCOS J.P.A.
WASTEWATER TREATMENT PLANT**

To: Honorable Mayor and City Council, City of Morro Bay
Honorable President and Board of Directors, Cayucos Sanitary District

From: Bruce Keogh, Wastewater Division Manager

Date: February 6, 2014

Subject: Status Report on the Permit Renewal Process for the Wastewater Treatment Plant NPDES Permit No. CA0047881

Recommendation:

This Department recommends this report be received and filed.

Fiscal Impact:

To date, the fiscal impact has been \$4,147.25 for consultant support services for the permit renewal effort. The FY 13/14 WWTP budget contains funds for the permit renewal effort.

Summary:

This staff report is intended to provide an update on the permit renewal process for the Morro Bay/Cayucos Wastewater Treatment Plant since the December 2013 JPA meeting. The Morro Bay/Cayucos Wastewater Treatment Plant (plant or WWTP) operates under National Pollution Discharge Elimination System (NPDES) permit No. CA0047881. The NPDES permit expires on March 1, 2014. The existing NPDES permit includes a 301(h) modified discharge permit, which waives full secondary treatment requirements; it is important to note that the 301(h) modified discharge permit applies only to full secondary treatment requirements for suspended solids and Biochemical Oxygen Demand (BOD). The plant operates as a full secondary treatment facility for all other constituents listed in the NPDES permit.

NPDES permits are generally issued for five years. The permit requires that MBCSD submit an application, six-months prior to the expiration of the permit. As the permit became effective March 1, 2009, this would require that a complete permit application be submitted by September 1, 2013 to the appropriate regulatory agencies.

Discussion:

A complete application packet was delivered to Regional Water Quality Control Board (RWQCB) on August 26, 2013. A copy of the entire application packet can be viewed on the City website at www.morro-bay.ca.us/npdes. A copy of the application packet was also forwarded to the Environmental Protection Agency (USEPA). Per the direction of the Council and District Board,

the application packet submitted to the RWCB is for a full secondary permit with interim effluent limits. This application does not include an application for a 301(h) modified discharge permit.

Staff is currently waiting for RWQCB staff and their EPA subcontractor to finish drafting the NPDES permit. Once they have completed the draft permit, RWQCB has stated that MBCSD will get an opportunity to review the draft permit and provide comment to RWQCB prior to public noticing the draft permit.

City and District staff have a meeting scheduled on February 7 with RWQCB staff and staff from SLO County to discuss the draft permit as well as to discuss the potential for the City and/or District to develop a regional facility at CMC. MBCSD staff will provide a verbal update on this meeting at the February 13 JPA meeting

The granting of a full secondary permit with interim effluent limits allows for the MBCSD to be protected from fines for not meeting full secondary effluent limits. The interim effluent limits can only be applied to one five-year permit cycle, meaning that at the end of that permit cycle, the plant would have to meet full secondary treatment requirements or face minimum mandatory penalties of at least \$3,000 per day per constituent that is violated. For example if the permit renewal date was September 2014, then the plant would have to meet full secondary requirements by September 2019 when the permit with the interim effluent limits expires. However, RWQCB staff has indicated that after the first five year permit cycle, they may be able to extend the interim effluent limits another five years to allow MBCSD more time to complete the development of a new Water Reclamation Facility (WRF) and provide protection from potential minimum mandatory penalties. There is a major caveat to receiving some form of extension after the initial five year permit; that significant progress needs to have been made in the siting of the new WRF, if not under construction,

As the permit renewal process progresses, MBCSD will need to have discussions regarding adoption of a new conversion schedule through an enforceable instrument approved by the RWQCB. Similar to the existing Settlement Agreement, a new settlement agreement will likely include a conversion schedule with milestones for completing the planning, design, construction and operation of the new WRF.

Conclusion:

Staff will continue to update the Council and Board on the permit renewal process as information becomes available.

Agenda No. _A-4_

Date: _____

STAFF REPORT

MORRO BAY/CAYUCOS J.P.A. WASTEWATER TREATMENT PLANT

To: Honorable Mayor and City Council, City of Morro Bay
Honorable President and Board of Directors, Cayucos Sanitary District

From: Susan Slayton, Administrative Services Director

Date: February 13, 2014

Subject: Financial Status Report as of December 31, 2013

Recommendation: Accept the report by motion.

Summary: The attached reports present the budget-to-actual activity for the MB/CSD Wastewater Treatment Plant for the 2nd quarter of fiscal year 2013/14. As of December 31, 2013, the WWTP has spent 35% of its expenditure budget.

STAFF REPORT

MORRO BAY-CAYUCOS J.P.A. WASTEWATER TREATMENT PLANT

To: Honorable Mayor and City Council, City of Morro Bay
Honorable President and Board of Directors, Cayucos Sanitary District

From: Bruce Keogh, Wastewater Division Manager

Date: February 6, 2014

Subject:

Status Report of a Major Maintenance & Repair Plan (MMRP) for the WWTP

Recommendation:

Morro Bay and Cayucos Sanitary District staffs recommend that this report be received and filed.

Fiscal Impact:

No fiscal impact at this time as a result of this report. Fiscal impact is addressed through the budget process.

Background:

This staff report is intended to provide an update on the development of the MMRP for the WWTP. At the February 14, 2013 JPA meeting the Council and District Board approved of the development of an MMRP and made the following motion:

- Direct staff to prepare a time sensitive and prioritized MMRP for the WWTP with an anticipated rolling 2 year budget;
- That the JPA solicit proposals from a qualified firm, or firms, to provide technical advice and analysis on an as needed basis as determined by Morro Bay's Public Services Director and Cayucos Sanitary District Manager;
- And that the Morro Bay Public Services Director and Cayucos Sanitary District Manager report back to the JPA on a semi-annual basis on the progress and costs associated with the MMRP.

Development of a MMRP will assist the City and District in projecting the budgeting of expenditures required to keep the current plant operating in compliance with regulatory requirements.

Staff's primary focus has continued to be on the next Fiscal Year and the projects contained within the FY 13/14 WWTP budget that was adopted by both the City and District. The adopted budget contains \$1.04M in funding for MMRP projects presented during the budget hearing at the JPA meeting. Staff has continued to work on developing and refining an implementation schedule for the projects funded in the FY 13/14 budget.

Discussion:

Digester #2 Repair

City and District staff in coordination with Mike Nunley (MKN) finalized and publicly noticed a solicitation for bids for the sandblasting and coating of digester #2 on January 5, 2014. Bids were due by February 4, 2014 and six were received. City and District staff as well as staff from MKN and Black and Veatch (B&V) are reviewing the bids and have made a recommendation for award of contract to the lowest responsible bidder. The award is a separate agenda item on the February JPA meeting agenda. The sandblasting and coating work is scheduled to be completed in March or April of this year.

In addition staff has continued to refine work tasks and schedules for completing projects required to bring the digester back on-line. Plant staff has also continued with the repair and or replacement of valves both above ground and below grade used to transfer sludge in the solids handling process. This maintenance includes the complete replacement of some sections of piping valves or the installation of the bonnet (core of the valves) of the valves where the valve bodies were deemed to be in good shape; and replacement of various sections of piping due to extreme wear or corrosion.

Staff and MKN are also working to address the repair or replacement of the heat exchanger piping (HEX) for digester #2. These repairs were not included in the digester coating RFP and will be dealt with as a separate project as the repairs or replacement of the HEX can be performed while the other projects get completed or the digester is back on-line as a secondary digester (digester does not need to be heated in this operational mode). At this point the strategy is to repair the existing heat exchanger unit. This will involve replacement of water feed piping, descaling of the water jackets, sandblasting and coating, and installation of new insulation on the HEX.

Headworks Influent Screening Project

City and District staff in coordination with MKN finalized and publicly noticed an RFP for the procurement of the influent screens at the headworks on January 5, 2014. Five proposals were received from screen manufacturers. City and District staff as well as staff from MKN and B&V reviewed the proposals and have made a recommendation for award of contract. The award is a separate agenda item on the upcoming JPA meeting's agenda as items C-2 and C-3. The schedule for this project as outlined in the RFP is:

- Award Equipment Supply/Execute Supplier Agreement February 13, 2014
- Shop Drawing Preparation February 14 – March 7, 2014
- Shop Drawing Review March 10 – March 21, 2014
- Revisions to Shop Drawings March 24 – April 11, 2014
- Approved Shop Drawings April 18, 2014
- Delivery of Equipment August 29, 2014

After discussion of the various procurement options it was decided to have the City and District procure the influent screens and then use the bidding process to select a contractor to install the equipment. This option provides for a quicker implementation time-line as well as provides the City and District with more control over the type and manufacturer of the screening equipment. This is important for the screening project because there are numerous screens available on the market, but not all screens meet the specific parameters for this particular installation.

During the procurement process for the screens, a set of plans and specifications (bid package) was developed for hiring a contractor to install the screen units. The bid solicitation for hiring the contractor will also include provisions for the purchase and installation of the required equipment for

repairs to the chlorine contact tank. This would allow the selected contractor to coordinate the installation of the screens and the chlorine contact tank, and should result in savings to the City and District by reducing mobilization fees, procurement costs and project coordination.

Reconditioning of the Chlorine Building

This project has been successfully completed and includes repairs to the chlorine building that include the enclosing of the storage area, reroofing of the building, installation of a roll up door and building shelving to store critical equipment out of the elements. The area now provides both critical storage space as well as additional shop space for the numerous projects currently being performed at the plant.

Interstage Pump and Valve Project:

This project is currently on-going. The three Biofilter Recirculation Pumps used to pump water to the trickling filters have been rebuilt. One of the pumps has an issue with the drive shaft and will be returned to the shop for further repairs. Also included in this project is the purchase and installation of five new butterfly valves at the interstage pump station used to regulate flow to the biofilters. The valves have been purchased and are on-site. Plant staff is working to schedule a time when the valves can be installed. The valve installation will require implementing operational strategies to stop flow while the valves are removed and replaced.

Electrical Evaluation

Staff has received a final draft of the Electrical Equipment Assessment from B&V. The assessment of the plant's electrical system was conducted by an electrical engineer from Black & Veatch (B&V) on November 12 and 13, 2013. Staff did provide comments to B&V on the draft report and B&V has incorporated those comments where appropriate. The following excerpt is from the executive summary of the report.

“The electrical assessment focused on identifying any immediate improvements needed to enable MBCSD to continue to use the existing electrical system at the WWTP till the time the WWTP is decommissioned. The memorandum presents the condition assessment and recommended improvements to the various electrical system components including the switchgear, Motor Control Centers (MCC), 120 volt systems, control panels, and emergency standby generator. Based on the assessment, it was determined that:

- All major components of the existing electrical system are in good working condition and no major repair or replacement is required at this time.*
- Most electrical panels, MCCs, and cabinets exhibit light to moderate corrosion; however, additional space heating in or around these cabinets would help keep corrosion in control.*
- The existing lighting panel and dry-type transformer pair near the Storage Building are severely corroded and both should be replaced immediately.*
- The existing drain lines that run above the MCCs in various locations should be rerouted for compliance with the requirements of the National Electric Code (NEC).*

- Considering that the existing WWTP could be decommissioned in 10 years, upgrading the existing plant control system to incorporate a new Supervisory Control and Data Acquisition (SCADA) system is not recommended.

In addition, the TM also summarizes maintenance recommendations of the existing system that include the routine maintenance activities for various components. “

The Electrical Assessment also takes into consideration the recent electrical issues noted with the main breakers, switch gear, and auxiliary generator. This incident did not change their overall assessment of the plant's electrical systems, although they will be providing recommendations to better the switchgear system.

Staff will be looking into their maintenance recommendations and either pursue them in the coming months or include them in the next budget cycle.

Conclusion:

Staff will continue to bring a status report on the development and implementation of the MMRP at future JPA meetings.

STAFF REPORT

MORRO BAY-CAYUCOS J.P.A. WASTEWATER TREATMENT PLANT

To: Honorable Mayor and City Council, City of Morro Bay
Honorable President and Board of Directors, Cayucos Sanitary District

From: Rick Sauerwein, Capital Projects Manager
Bruce Keogh, Wastewater Division Manager

Date: February 6, 2014

Subject:

Award of Contract to Vulcan Industries, Inc. of Missouri Valley, IA, for Proposal No. MB2014-WW01 Headworks Screens Equipment Procurement.

Recommendation:

City and District staff recommend awarding the proposal contract to Vulcan Industries, Inc. in the amount of \$316,280.00.

Fiscal Impact:

The Project is fully funded from the projects contained within the FY 13/14 WWTP budget that was adopted by both the City and District. The adopted budget contains \$500,000 for the purchase and installation of the headworks screening equipment. This project was included as part of the Major Maintenance and Repair Projects (MMRP) projects adopted in the FY 13/14 budget.

Discussion:

City and District staff with support from Michael K. Nunley & Associates (MKN) developed and public noticed an RFP for the procurement of the influent screens at the headworks on January 5, 2014. Five proposals were received ranging from \$258,487-\$508,875. A selection panel composed of staff and representatives from MKN and Black & Veatch Corporation (B&V) reviewed the proposals and determined that the highest priced proposal was deemed non-responsive due to lack of supporting documentation required by the RFP. The selection panel interviewed the remaining candidates on February 5, 2014. The panel ranked each proposal based on the following selection criteria established in the RFP:

The Project Team will review all Proposals on a cost, as well as technical, basis. The lowest price alone will not necessarily result in a successful proposal. Proposal will be ranked by the project team approximately according to the following criteria:

- *Compliance with the specified technical requirements or clear explanation for deviations (subject to City/District acceptance of deviations) – 33.3%*
- *Cost – 33.3%*
- *Demonstrated history of successful installations / References – 33.3%*

During the interview process the proposing firms were given the opportunity to identify unique product features, explain proposed deviations to the specifications and offer price adjustments that would allow each proposal to be judged in a consistent manner. This resulted in an increase in two of the four proposals. The resulting price range of the proposals was from \$291,686-\$367,069. The members of the panel ranked each proposal based on the established criteria and unanimously determined that the Vulcan equipment was the most responsive to the requirements of the RFP because it achieved the best technical fit, provided the most value for the application proposed and demonstrated a long track record of delivering a quality product. The key discriminating factors were the unique design features of the screens which assure minimal maintenance and high reliability, the strong industry reputation of the proposed washer/ compactor as evidenced by the large number of installations, the proven past performance of Vulcan products, the demonstrated value provided for the relatively small additional cost, the thoroughness of the proposal and responsive customer support.

Conclusion

Staff recommends the City Council and Cayucos Sanitary District award this equipment procurement contract to Vulcan Industries, Inc. in the amount of \$316,280 subject to successful negotiation of contract terms & conditions. An installation design and bid package for the equipment will be developed upon receipt of the final shop drawings, which is anticipated in April 2014. Staff will continue to report progress on this work as part of the regular MMRP status report at future JPA meetings.

STAFF REPORT

MORRO BAY-CAYUCOS J.P.A. WASTEWATER TREATMENT PLANT

To: Honorable Mayor and City Council, City of Morro Bay
Honorable President and Board of Directors, Cayucos Sanitary District

From: Rick Sauerwein, Capital Projects Manager
Bruce Keogh, Wastewater Division Manager

Date: February 6, 2014

Subject:

Award of Contract to Cor-Ray Painting Company, of Santa Fe Springs, CA, for the Project No. MB-2014-WW02 Digester #2 Coating Project.

Recommendation:

Morro Bay and Cayucos Sanitary District staffs recommend award the Project contract to Cor-Ray Painting Company in the amount of \$98,920.

Fiscal Impact:

The Project is fully funded from the projects contained within the FY 13/14 WWTP budget that was adopted by both the City and District. The adopted budget contains \$1.04M in funding for MMRP projects presented during the budget hearing at the JPA meeting. \$250,000 was specifically allocated to rehabilitate Digester #2; \$152,826.83 has been spent to date in preparing the Digester for this coating project. Additional funding may be required to complete this project if the full contingency is expended. This additional funding could be reallocated from the Headworks Screen project since the installation of the screens will not occur until next fiscal year.

Discussion:

City and District staff in coordination with Michael Nunley & Associates (MKN) finalized and public noticed an RFP for the sandblasting and coating of Digester #2 on January 5, 2014. Proposals were due by February 4, 2014. Six bids were received and ranged in price from \$98,920 to \$211,350. After review of the bids and reference checks, City and District staff determined that Cor-Ray Painting Company is the lowest responsible bidder. Upon successful award of contract, City and District staff anticipate a Notice to Proceed in late February and completion of the project by April 2014.

Conclusion

Staff recommends the City Council and Cayucos Sanitary District award the Project contract to Cor-Ray Painting Company in the amount of \$98,920 and authorize the discretion in awarding additional work as may be required up to a 25% contingency. This contingency is necessary because the exact amount of crack sealing and concrete repairs cannot be ascertained until the sandblasting process has been completed and engineering staff has the opportunity to assess the final condition of the tank walls. Staff will continue to report progress on this work as part of the regular MMRP status report at future JPA meetings.

STAFF REPORT

Agenda No. Item C-4

Date: February 13, 2014

MORRO BAY-CAYUCOS J.P.A. WASTEWATER TREATMENT PLANT

To: Honorable Mayor and City Council, City of Morro Bay
Honorable President and Board of Directors, Cayucos Sanitary District

From: Bruce Keogh, Wastewater Division Manager

Date: February 6, 2014

Subject:
Budget Revision for Electrical Repairs at the WWTP

Recommendation:
That the City Council and District Board reallocate the funds budgeted for replacement of the biofilter distribution arms in the FY13/14 budget to fund emergency electrical repairs at the WWTP.

Fiscal Impact:
Recently completed emergency repairs at the wwtp to the main breakers, switchgear, and emergency generator totaled \$23,000. The FY 13/14 budget contains \$50,000 for replacement of the biofilter distributor arms.

Summary:
During the month of December, plant staff was forced to deal with issues encountered with the main utility and emergency generator main breaker, the switchgear control logic and equipment, and the emergency auxiliary generator that occurred between Wednesday December 11 and Monday December 23. The overall incident(s) were a very serious, complex, and lengthy process that impacted critical components required to keep the plant functional and operational. Staff is recommending reallocating funds in the FY13/14 budget for the replacement of the biofilter distributor arms to cover expenses incurred to date and to fund the expenses of the recommended corrective actions.

Discussion:
During the month of December, plant staff was forced to deal with issues encountered with the main utility and emergency generator main breaker, the switchgear control logic and equipment, and the emergency auxiliary generator that occurred between Wednesday December 11 and Monday December 23.

These issues caused the plant to be without electrical power and more importantly unable to supply power from either the utility or emergency generator sources of electrical power. The issues associated with these incidents have the potential to jeopardize the safety of plant personnel as well as the potential to leave the plant without power for extended periods of time (potential compliance issues).

Costs incurred to date for the repairs total \$23,000. Staff is recommending reallocating the \$50,000 allocated in the FY13/14 budget for the replacement of the biofilter distributor arms to cover expenses

incurred to date and to cover the expenses of the recommended corrective actions. The project for purchase and installation of the new biofilter arms could be pushed back for consideration in the FY14/15 wwtp budget.

Staff is recommending that the funding for the biofilter distributor arms be used to fund the following recommended projects:

- 1) The FY 13/14 budget allocated \$11,000 in line item 6601 for reconditioning of a main breaker. These funds have already been used for the reconditioning of another main breaker that was sent in for repairs during the FY12/13 budget cycle but was not returned to the plant until the 13/14 budget cycle was underway. The City Finance Department would not allow funds from the 12/13 wwtp budget (when the breaker was shipped in for repairs) to pay for the repairs. The current spare main breaker needs to be sent in for repairs and reconditioning. During the recent incident this breaker had both mechanical as well as electrical faults. Reconditioning this breaker will give us a spare in the event it is required. Estimated cost for this is \$11,000.
- 2) AES is also recommending that the plant generator needs to have a smaller circuit breaker installed at the generator that is of the proper size. The only circuit breaker for the generator is a 2000 amp circuit breaker and that is too large to protect the generator in case of problem. There should be a 400 amp breaker installed at the generator to bring up to code. The estimated cost for the installation of the breaker is \$5,000.
- 3) Miscellaneous equipment purchases so that the plant will have spare agastats, breaker safety cell switches, and timing delays for the switch gear control equipment. Currently we have no spares in stock of these critical components. The cost estimate for the purchase of spare components is \$5,000.

The total estimated costs for the three items listed above are \$21,000. Reallocation of the funds in the FY13/14 budget for the replacement of the biofilter distributor arms would cover both the costs incurred to date as well as the three items listed above. Reallocation of the funds would minimize the impacts to the wwtp budget and allow staff to continue to pursue previously planned projects.

AES also recommended that the transfer circuit of the switch gear should be changed to an Automatic Transfer Switch. A Transfer Switch would provide a "mechanical interlock" between the utility and generator circuit breakers to ensure they do not energize at the same time. Plant staff forwarded a copy of the incident to the electrical engineers at Black & Veatch for review and consideration. After review of the incident the electrical engineer at B&V is recommending that based on the plans to construct a new plant within the next ten years it does not warrant the costs associated with installation of a transfer switch. Rather they recommend a series of testing to ensure proper operation.

Background:

The wwtp has an emergency generator and switch gear system designed to automatically transfer power to the emergency generator in the event of a power failure and then back to utility power when utility power is restored. The system is also designed to allow for a person to manually transfer the power to the generator or back to utility power in the event the automatic transfer does not occur.

The automatic transfer system involves the two main breakers, the utility and generator breakers, as well a complex logic system to ensure the safe transfer of power and that the two main breakers do not energize at the same time. Energizing these two breakers at the same time will cause a catastrophic event that can destroy vital equipment and have safety issues as well. It should be noted that there is a

work order for plant staff to test the generator under full load conditions on a monthly basis to ensure proper operation of this system.

The following is a very brief summary of what transpired:

PG&E had provided advanced notice to plant staff that on Wednesday December 11, PG&E would be shutting the power down to the wwtp from 0900 to 1400 hours to perform repairs to the utility power pole that feeds the wwtp. Plant staff made advance preparations to run the emergency generator during this period and planned to use the outage period to perform some maintenance requirements on the generator switchgear that are best accomplished when PG& E power is shut down. The lack of energized equipment reduces the arc flash potential from a level 3 to a level 0 allowing for safer working conditions

Following the PG&E repairs, Alpha Electrical Services (AES) and plant staff attempted to transfer power from the generator to utility power. That transfer was not successful, and led AES and plant staff down a two week path of intensive testing and trouble shooting of the power transfer process. During this process they discovered issues with the utility and emergency generator main breakers, the switchgear control logic and equipment, and ultimately the emergency auxiliary generator

The following discussion highlights the issues, causes, and corrective actions performed by AES and plant staff:

- 1) The existing breaker that was in the utility breaker cubicle has mechanical issues and needs to be repaired and reconditioned.
- 2) AES discovered issues with select pieces of the control system logic that prevented the successful transfer of power between the utility and generator breakers, either automatically or manually. Issues were noted with safety cell switches located within the breaker cubicles and the agastat and time delays within the switch gear logic. AES replaced all the control logic relays, agastat, and time delays as part of this process. They “borrowed” two safety cell switches from spare breaker cubicles and we are currently ordering two new replacements. These issues resulted in staff being unable to switch to either utility power or generator power, resulting in no power to the facility for extended periods of time.
- 3) AES made adjustments to the time delays to ensure that there is adequate time between the breakers opening and closing to prevent both from energizing at the same time. During this process, AES discovered the existing system was not coordinated correctly resulting in the 400amp breaker on the trailer mounted generator tripping to prevent a current overload on the generator during one of the power transfers.
- 4) The emergency generator failed during testing on December 18. This required staff to locate and have a trailer mounted 250kW stand by generator delivered to provide power if needed while the existing generator was repaired. The fault with the existing generator was faulty diodes that were eventually replaced on site.

Operational Strategies

During this two week period plant staff experienced several episodes of between twenty minutes and two and one half hours where the plant was entirely without power, a potentially catastrophic problem. Plant staff devised and implemented operational strategies to ensure continuous performance of the plant. The strategies included closing the main gate to the plant and stacking (storing) influent flow into the plant in the sewer system feeding the plant for brief outages. The other strategy for longer outages was to drain a primary clarifier and to fill the clarifier by pumping to it with a trailer mounted hydraulic pump located in the influent channel. This ensured that no effluent left the plant while the clarifier was being filled.

WWTP staff should be commended for their actions in keeping the plant operational and working through these problems in a calm professional manner.

Conclusion

During December, the wwtp experienced serious issues with the main breakers, switchgear, and auxiliary generator. While emergency repairs were performed and the plant has returned to normal operations, the incident reinforces that additional corrective actions need to be implemented. Based on this recent experience, staff is recommending that the City Council and District Board reallocate the funds budgeted for replacement of the biofilter distribution arms in the FY13/14 budget to fund critical electrical repairs at the WWTP.