

Server Virtualization Project



Server Virtualization Project: CMSA has used servers since the treatment plant's construction in the mid 80's to provide services ranging from the SCADA (Supervisory Control and Data Acquisition) process control system, to finance and accounting, to our new voice over internet protocol (VOIP) phone system. The term "server" refers to both the physical equipment a server runs on, as well as the services and applications it provides. Originally one physical server hosted one service, but advances in computing power now allow multiple "virtual servers" to run on the same piece of physical equipment. Each virtual server is completely isolated from other virtual servers, as if on its own hardware. This ensures that if one "server" crashes, the others are not affected.

This year, CMSA began the process of consolidating our servers onto one physical server. This allows us to consolidate numerous systems onto two pieces of hardware, reducing maintenance costs, saving energy, increasing systems' reliability, and simplifying the backup of vital information. To date, by virtualizing servers, we have removed four physical servers, and plan to remove two more in the next several months. This will allow us to rapidly deploy new servers without having to purchase additional hardware. ♦♦♦

Pictured above, Information System Analyst Tuomas Groves points out the new server that will replace the five servers below it.

Annual Outfall Diffuser Section Mudline Survey and Inspection

The 1,035-foot-long diffuser section of CMSA's outfall is about a mile and a half offshore in Central SF Bay, and consists of 176 6" diffusers. Every year, as part of its NPDES Permit compliance, CMSA has the diffuser section inspected and, if need be, individual diffusers raised or repaired. The inspection includes measuring the elevation of each diffuser relative to the bottom of the Bay floor and identifying diffusers that are missing or damaged. This year, staff invited three local diving contractors familiar with the diffuser section to provide quotes to perform the inspection, and Parker Diving's quote was selected. Parker Diving completed the inspection work in November, and staff has reviewed the report and is coordinating repairs for the Spring after wet weather. As is usually the case, the diffuser work is located near the end of the diffuser section, which typically only operates during wet weather flows of 30 MGD or more. ♦♦♦

Pictured right, a diver from Parker Diving suits up to inspect the outfall diffuser section.



Training & Safety Matters...

CMSA is always striving to create a safe workplace. Our safety committee meets monthly to discuss employee safety concerns and to ensure required safety training is up to date for all CMSA staff. Recently, we conducted several safety training and tailgates that included defibrillator use, CPR/First Aid, blood borne pathogens, and hearing testing. ♦♦♦



Pictured: Operations Lead Brian Bokkin has his hearing checked.

Strategic Business Plan Update...

With the Board's adoption of a Strategic Business Plan (SBP), the Agency Strategic Planning Committee (ASPC) set out to develop a five year implementation schedule. The team has established a team charter for the committee, has assigned members to serve as coordinators to oversee implementation of the objectives and associated strategic actions, and has completed draft SBP objective implementation tracking worksheets that identify lead staff, resource needs, timeframes, and priorities. The SBP Project Manager, Finance Manager Hank Jen, will compile the data from each goal into a master document to display overall impact of staff involvement and resource requirements. The ASPC is meeting to review the implementation schedule and make refinements, and to discuss ways to engage all Agency staff in fulfilling the SBP. ♦♦♦



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What's Happening Now... Awards!



In November, Central Marin Sanitation Agency learned that it had received ten awards from the California Water Environment (CWEA), which is the highest number of awards the Agency has ever received from the CWEA. The organization was founded in 1927, and is comprised of 9,000-plus professionals in the water and wastewater industry, and has the primary goal to keep California's water clean. The CWEA accomplishes its goal by training and certifying wastewater professionals, disseminating technical information, and promoting sound policies to benefit society through protection and enhancement of our water environment. There are a total of 17 local sections across the state and we are a member of the Redwood Empire Section which stretches from the Golden Gate to Ukiah and from the Pacific Ocean to Vacaville. The annual awards recognize CWEA members who have contributed to their individual organizations, CWEA, and the wastewater industry as a whole.



Individual awards:

1. Kit Groves (*above*), Supervisor of the Year
2. Jenny Bender, Laboratory Person of the Year
3. Brian Bokkin (*right, top*), Operator of the Year
4. Antonio Barros, Collection System Person of the Year
5. Abel Villarreal, Maintenance Person of the Year
6. Russ Turnbull, Electrical and Instrumentation Person of the Year

Program awards:

1. Public Ed Program of the Year —Wastewater Treatment Agencies of Marin County
2. Safety Program of the Year —Central Marin Sanitation Agency
3. Engineering Achievement —Central Marin Sanitation Agency - Wet Weather Improvement Project
4. Gimmick and Gadget of the Year —CMSA - Solar-powered Remote Radio Repeater

(Pictured mid-right is Jacky Wong, Assistant Engineer, accepting the Engineering Achievement Award; Pictured bottom right are Rob Cole and Gretchen Mueller, accepting the Public Ed Award.)

Agencywide Projects & Programs



RAS Flow Meter Replacement: Maintenance, Operations, and Electrical & Instrumentation worked together to replace a 27 year old RAS flow meter. This took a coordinated effort as Operations had to divert flow in order for Maintenance to break into the 24" line. Also included in this effort was cleaning and exercising the flow meter isolation valves. Pictured, left, Maintenance staff Kevin Lewis works on the meter replacement.◆◆◆

Heat Exchanger Annual PM: Maintenance recently completed annual PM on the Waukesha engine cooling loop heat

exchangers in the boiler room in conjunction with quarterly engine preventative maintenance. Keeping the heat exchangers clean is critical to keep the engine's cooling system running efficiently while extending the overall life cycle. While the heat exchangers were apart, Maintenance completed a condition assessment in an effort to fine tune preventative maintenance and to predict when they will need to be replaced. Pictured right are images of the heat exchangers. ◆◆◆



Centrifuge 5 Year PM: The picture below depicts the damage to an internal component of centrifuge #3, which was caused by an unusually large amount of grit that was processed by the system when Digester #1 was emptied in preparation for the start of our Digester Improvement Project. Our Maintenance staff worked with the centrifuge manufacturer to identify a two part epoxy system designed to handle any abrasive materials processed through the centrifuge. ◆◆◆



Aeration Blower Replacement Project: The construction phase of the aeration blower project began on October 17 when staff issued the Notice to Proceed to the contractor, Western Water Constructors of Santa Rosa. Western Water has been diligently submitting equipment submittals for review and comment by Agency staff and Carollo Engineers, the project designer. The new blowers will be equipped with Variable Frequency Drive (VFD) motors to provide both energy savings and better operational control of the secondary treatment process. The lead time for manufacturing this type of blower is four to six months, and we're expecting that the project will be completed by August 2012. Pictured, below left, are the original single-speed blowers, and a picture of the variable speed blowers.◆◆◆



California Uniform Public Construction Cost Accounting Act (CUPCCAA): In 2004, CMSA's Board of Commissioners adopted an ordinance to utilize the provisions of the California Uniform Public Construction Cost Accounting Act (CUPCCAA). This Act is a section of the California Public Contract Code that provides a set of alternate bidding, contracting, and project delivery methods for public agencies in California. Its main advantage is use of an informal bidding tier of project delivery, for projects estimated to cost between \$30,000 and \$175,000. The informal bidding process has a shorter, more streamlined contract advertising and bidding procedure using prequalified contractors. Implementing CUPCCAA provisions required modifying existing and creating new Administrative Procedures. In November, the Agency advertised for qualified contractors interested in being listed on the 2012 informal bidder's lists, and the new lists will be available for use in January, 2012. The lists will be maintained on an annual basis from 2012 on. ◆◆◆

Digester Improvements Project



Digester Improvements Project: The Digester Improvements/FOG-Food to Energy (F2E) project is moving along well. Concrete pouring for the FOG/F2E facility is nearing completion and that facility is on track to be completed by late summer 2012. Meanwhile, GSE Construction, the prime contractor, has relocated two of the four digester gas scrubbers, and associated mixing equipment will be moved to the temporary cement pads on the service road behind the digesters. This will allow demolition of the remaining equipment in the gas mixing equipment room so that the new pump mixing system can be installed in the first digester. The new pump mixing system and that digester's membrane cover are scheduled to be operational in the first digester by May 2012, and then the second digester will be cleaned, have its

floating steel cover demolished, and be fitted with the pump mixing equipment and a membrane cover as well. Pictured is the relocated gas mixing compressor and scrubbing equipment. Once the gas scrubbers and mixing equipment are moved, the existing room can be demolished in preparation for the new digester mixing system. Operations and Electrical & Instrumentation are helping to coordinate the move so that there aren't process disruptions. ◆◆◆



Environmental Services—Public Outreach



Recent public outreach activities included the 26th Annual Marin Senior Information Fair, attended by over 4,000 seniors. The Wastewater Treatment Agencies of Marin County had a popular outreach booth and nearly 200 seniors took the environmental quiz. ◆ On November 3, Dominican University Environmental Studies students, *left*, toured the treatment plant and learned how water is cleaned before it is discharged into the Bay. ◆ The Public Ed Program visited Ross School in October to set up a school outreach program. Fourth grade students learned how good bugs help treat wastewater, used games on laptops to learn about what should and shouldn't go down drains, and visited a watershed diorama that illustrated how water drains off a community and flows down creeks and rivers and ends up in the Bay. ◆◆◆

Finance News

The CMSA Budget: As of October 31, 2011 the Agency received 33.7% of budgeted operating revenue and incurred 30.7% of total budgeted operating expenses. The Capital Improvement Program was at 19% of budget and an additional \$172.1K in encumbered funds. The Revenue Bond Program was at 94.8% of budget (\$60.9 million) and included \$6.1 million in contractual obligations associated with the Administration Building Modifications Project, the Agency Capital Master Plan, the Digester Improvement/FOG Project and other minor capital projects. The remaining budget balance of \$3.7 million represents Revenue Bond funded activities for FY12 through FY13. ◆◆◆

FY 2010-11 Financial Statements: The Agency received an unqualified opinion from its outside auditor, Vavrinik, Trine & Day for FY 2010-2011 financial statements which signifies

that the financial statements are free of material misstatements and that the audit did not identify any deficiencies and material weaknesses with respect to the Agency's financial operations. The audit findings were presented and accepted by the CMSA Board on November 9, 2011. FY 10-11 financial highlights can be found in the Agency's Popular Annual Financial Report, which is available in draft format on the Agency's website at www.cmsa.us.

FY2011-12 Budget Presentation: In October, the Agency completed a comprehensive FY12 budget document for the Government Finance Officers Association (GFOA) for an assessment of its public sector budget reporting qualities. This presentation differs from the budget document adopted by the Board in June 2011 because it includes an organizational narrative and is meant for an audience of interested parties without a background in public finance. ◆◆◆