



**Central Marin Sanitation Agency**

**COMMISSION REGULAR MEETING AGENDA**

**Tuesday, December 10, 2019**

**at the Agency Office**

**7:00 p.m.**

Members of the public may directly address the Board on any item appearing on the Agenda. They may address the Board when the item is called by the Board Chair and he/she indicates it is the time for the public to speak to the agenda item. Audio and video recordings will be made of this meeting and will be posted to the Agency website.

1. **7:00 p.m.: Call Meeting to Order/Pledge of Allegiance**

2. **Roll Call**

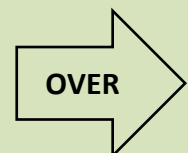
3. **Open Period for Public Participation**

*Open time for public expression, up to two minutes per speaker, on items within CMSA's jurisdiction and not on the Board of Commissioners' agenda. The Board will not discuss or take action during open time, but Board members may briefly respond to statements made or questions proposed by the public, ask for clarification from staff, refer the matter to staff, or request staff to report back to the body at a subsequent meeting concerning any matter, or take action to direct staff to place a matter of business on a future agenda.*

4. **Consent Calendar**

*Matters listed under this item are considered routine and will be enacted by one motion. The consent calendar may include resolutions; therefore, the motion, second, and vote will also be applicable to the resolution and recorded accordingly. There will be no separate discussion of these items unless requested by a member of the Board or the public prior to the time the Board votes on the motion to adopt.*

- a) Minutes—Regular Board Meeting—November 12, 2019
- b) Treasurer's Report—Operating Account—November 2019
- c) Schedule of Investments and its Capital Reserve Summary—November 2019
- d) NPDES, Process, and Maintenance Report—November 2019
- e) Performance Metric Report—November 2019
- f) CASA 2020 Winter Conference
- g) Hypochlorite Tank Motorized Operated Valve Procurement



5. **FY19 Comprehensive Annual Financial and Popular Annual Financial Reports**  
*Recommendation: Accept the FY19 Comprehensive Annual Financial and Popular Annual Financial Reports.*
  
6. **Agency Pension and OPEB Benefit Plans**  
*Recommendation: Receive and accept the Pension and OPEB Benefit Plans report and provide direction to staff, as appropriate.*
  
7. **Summary of Impacts to Agency Operations During the October 2019 Public Safety Power Shutoffs**  
*Recommendation: Receive and discuss the staff report, and provide direction to staff, as appropriate.*
  
8. **Nationwide 401(a) Deferred Compensation Plan**  
*Recommendation: Adopt Resolution #340 to join the Nationwide 401(a) retirement plan, accept the Finance Committee's deferred compensation plan recommendations, and provide comments or direction to the Committee and/or General Manager, as appropriate.*
  
9. **December Informational Items**  
*Recommendation: Informational; provide comments or direction to the General Manager as appropriate.*
  
10. **North Bay Watershed Association (NBWA) Report\***
  
11. **Oral Reports by Commissioners/General Manager\***
  
12. **Next Scheduled Meeting**  
*Tuesday, January 14, 2020 at 7:00 p.m. at the Agency office.*

\*Information not furnished with Agenda

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact Central Marin Sanitation Agency at 415-459-1455. For auxiliary aids or services or other reasonable accommodations to be provided by the Agency at or before the meeting, please notify the Agency at least 3 business days in advance of the meeting date (meeting is the second Tuesday of each month). If the Agency does not receive timely notification of your reasonable request, the Agency may not be able to make the necessary arrangements by the time of the meeting.



**Central Marin Sanitation Agency**

**COMMISSION REGULAR MEETING MINUTES  
Tuesday, November 12, 2019  
at the Agency Office**

**Note:** The minutes are an official record of the Board meeting.

There are also official audio and video recordings available on the Agency's website at [www.cmsa.us](http://www.cmsa.us).  
The time stamps on these minutes refer to the items' start times on the audio recording of the meeting.  
Please contact CMSA at 415-459-1455 for information about receiving a copy of these records.

**1. Call Meeting to Order/Pledge of Allegiance**

Vice-Chair Boorstein called the meeting to order at 7:00 p.m. A quorum was present.

**2. Roll Call**

**00:00:00**

Present: Vice-Chair Michael Boorstein; Commissioners Maribeth Bushey, Eli Beckman, and Doug Kelly; and Alternate Commissioner Marc Solomon

Absent: Commissioner Dean DiGiovanni and Alternate Commissioner Dan Hillmer

Staff present: Jason Dow, General Manager, and Ken Spray, Administrative Services Manager

Public present: John Cropper, Cropper Accountancy

**3. Open Period for Public Participation**

**00:00:44**

There were no comments from members of the public.

**4. Consent Calendar**

**00:01:29**

- a) Minutes—Regular Board Meeting—October 8, 2019
- b) Treasurer's Report—Operating Account—October 2019
- c) Schedule of Investments and its Capital Reserve Summary—October 2019
- d) NPDES, Process, and Maintenance Report—October 2019
- e) Performance Metric Report—October 2019
- f) FY20 First Quarter Budget Status Report
- g) FY 19 Capacity Charge Schedule
- h) Revised Safety Incentive Program
- i) New Deferred Compensation Plans

Comments from the Public:

There were no comments from members of the public.

Chair Boorstein stated that Consent Calendar item 4i should be deferred to a future meeting for further discussion. The Board concurred.

GM Dow said that he discussed this item with Alternate Commissioner Solomon and Chair DiGiovanni on Friday, and they recommended that this be referred to the Finance Committee for review and to prepare a recommendation for a future meeting.

**ACTION:** Commissioner Bushey moved to approve Consent Calendar items #4a through #4h; second, Commissioner Kelly.

**VOTE:** The vote was passed unanimously.

**ABSTAIN:** None

## 5. Audited Financial Statements

00:02:54

GM Dow said that both the internal control and financial audits went well, the Agency received a clean opinion, and there were no findings of items not in conformance with policy or procedures. He recognized Ken Spray and finance staff for their good work on the audit. He introduced the auditor, Mr. John Cropper of Cropper Accountancy Corporation, and said he will provide a brief overview of the audit report and answer any questions from the Board.

Mr. Cropper referred to his PowerPoint presentation and said the Agency received an Unmodified Opinion, with no disagreements with management, and no material weaknesses.

The Board asked various questions regarding pension liability, net position, OPEB funding, inventory, and deferred inflows and outflows. Mr. Cropper and GM Dow answered the Board's questions.

Commissioner Kelly recommended that staff provide a detailed report to the Board annually on the Agency's pension liability.

GM Dow said that staff plans to bring a report on the pension and OPEB liability to the December meeting.

### Comments from the Public:

There were no comments from members of the public.

**ACTION:** Commissioner Beckman moved to accept the Agency's FY19 audited financial statements; second, Commissioner Bushey.

**VOTE:** The vote was passed unanimously.

**ABSTAIN:** None

**6. San Quentin Pump Station Motor Control Center and Control Panel Upgrade Project (CMSA Contract No. 20-01) 00:45:47**

Commissioners Boorstein and Kelly said that RVSD recently completed a large pump station project with Fort Bragg Electric Inc., and found their work to be excellent.

GM Dow said that CMSA has engaged Fort Bragg Electric in the past and found their work to be very good.

Comments from the Public:

There were no comments from members of the public.

**ACTION:** Commissioner Bushey moved to award the construction contract for the San Quentin Pump Station Motor Control Center and Control Panel Upgrade Project to Fort Bragg Electric Inc., and authorize the General Manager to execute the contract agreement; second, Commissioner Beckman.

**VOTE:** The vote was passed unanimously.

**ABSTAIN:** None

**7. Agency Space Evaluation Findings 00:47:52**

GM Dow reported that the Board formed an ad hoc Space Evaluation Committee in May 2019 for the purpose of evaluating Agency property areas for potential future uses. He referred to the four property drawings and described the areas and the findings of the Committee.

Commissioner Kelly suggested that the Agency adopt fire reduction practices for the Andersen Hillside as recommended by the San Rafael Fire Department.

Comments from the Public:

There were no comments from members of the public.

**ACTION:** Commissioner Kelly moved to accept the ad hoc Space Evaluation Committee's report; second, Commissioner Bushey.

**VOTE:** The vote was passed unanimously.

**ABSTAIN:** None

**DIRECTION:** Staff to contact the San Rafael Fire Department to obtain fire prevention recommendations for the Andersen Hillside; and to explore the possible future use of goats in clearing brush on the hillside.

**8. Senior Engineer Job Description** **00:59:47**

GM Dow said that CMSA has assistant and associate engineer classifications, and staff proposes adding a senior engineer classification to complete the professional engineering classification series. He said that by adding this new job description to the Agency's Classification Plan, it provides for more flexibility when recruiting for engineering staff and extends the career ladder for existing engineering employees. He referred to the proposed job description and noted the key differences between the senior and the associate engineer essential job functions and qualifications.

There was no discussion by the Board.

Comments from the Public:

There were no comments from members of the public.

**ACTION:** Commissioner Beckman moved to approve the Senior Engineer job description and compensation range; second, Commissioner Kelly.

**VOTE:** The vote was passed unanimously.

**ABSTAIN:** None

**9. November Informational Items** **01:02:02**

There was no discussion on any items by the Board.

Comments from the Public:

There were no comments from members of the public.

**10. North Bay Watershed Association (NBWA) Report** **01:02:27**

Commissioner Boorstein reported that the November 1, 2019 NBWA Board meeting was cancelled due to the local wildfires and power outages.

**11. Oral Reports by Commissioners/General Manager** **01:02:50**

GM Dow referred to his handout and reported the following:

- Joyce Cheung has been selected for the Associate Engineer position and will start in December.
- Three Institutional Utility Laborers were hired and two will start work on 11/18 and one on 11/26.
- Bobby Emter started on 10/21 as an O.I.T. to fill the vacancy created by Dave Ernst's separation.
- Heidi Lang, Finance Analyst, recently attended a local finance group meeting and learned that Sausalito, Tiburon, Mill Valley, and Corte Madera use the Tyler Incode financial software that the Agency has purchased, and that they had very positive experience with the software and their customer service.

- A JPA ad hoc committee is being formed to discuss the Larkspur Withdrawal process, and a meeting is tentatively scheduled on 12/10, prior to the regular CMSA Board meeting.

Commissioner Bushey stated that during the recent power outages, CMSA could be the only power generating facility, and that the Agency should look into the possibility of providing charging stations as public service in the future.

GM Dow said that the cogeneration system normally shuts down during a power outage, and the emergency diesel generator starts up. He said that staff is currently evaluating control strategies to run the cogeneration engine with the emergency generator during power outages.

**12. Next Scheduled Meeting**

**01:11:44**

Tuesday, December 10, 2019 at 7:00 p.m. at the Agency office.

Vice-Chair Boorstein adjourned the meeting at 8:14 p.m.

Respectfully submitted,

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Ken Spray, Administrative Services Manager

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Eli Beckman, Secretary





**Central Marin Sanitation Agency  
Treasurer's Report - Operating Account  
For the Month of November 2019**

**I. Accounts Summary: Bank & Investment Accounts**

Summary of Bank & Money Market Accounts

Westamerica Bank - Account Activity shown below	\$ 125,301.71
Local Agency Investment Fund (LAIF) - Refer to Schedule of Investments	17,054,235.45
California Asset Management Program (CAMP) - Refer to Schedule of Investments	377,747.18
Total Bank & Investment Accounts: Ending Balance on November 30, 2019	<u>\$ 17,557,284.34</u>

**II. Account Activity for Westamerica Bank**

Beginning Balance on November 1, 2019 1,386,847.44

Cash Receipts (Deposits into Westamerica):

Transfers from LAIF	200,000.00
Capacity Charges: SRSD - FY20: 207 fixture units and 2 residential connections	89,131.67
Permit and Inspection Fees	7,762.84
LGVSD - Pollution Prevention & FOG (FY20 1Q: July-September)	8,642.72
SRSD - FOG Program (FY20 1Q: July-September)	5,045.36
TCSD - FOG Program (FY20 1Q: July-September)	522.07
SD#2 FOG Program (FY20 1Q: July-September)	1,676.14
Revenue from Haulers & RVs	8,776.43
Revenue from Organic Waste Programs	434.90
Health & Safety Program Revenue (NSD: FY20 2Q Salary/Benefits)	5,493.29
County-wide Public Education Program-Annual billing (FY20: SMCSO)	2,121.55
SD 2 Operations & Maintenance Contract (FY20: September)	42,432.29
Marin Airporter Property Use (FY20: September-November)	12,150.00
Misc Revenue: Marin Airporter security camera and gate installation	14,732.05
Expense Reimbursement from NSD for Examinetics hearing tests	416.67
Miscellaneous Reimbursements: Marin Airporter gate installation costs	6,741.50
Total Cash Receipts	<u>\$ 1,889,724.54</u>

Cash Disbursements (Withdrawals from WestAmerica):

November 2019 Operating account disbursements register (see attached)	\$774,014.60
Regular Payroll paid 11/08/19	152,446.28
Regular Payroll paid 11/22/19	152,641.01
Transfers to EFTPS Federal Payroll Taxes (11/13, 11/26)	72,048.01
Transfers to LAIF (FY20 Q2: JPA Payments)	2,000,000.00
Bank Fee	120.37
Total Cash Disbursements	<u>\$3,151,270.27</u>
Ending Balance on November 30, 2019	<u>\$ 125,301.71</u>

Prepared by:   
Kenneth Spray, Administrative Services Manager

Reviewed by:   
Jason Dow, General Manager



Central Marin Sanitation Agency  
 Operating Account Disbursements Register  
 For the Month of November 2019

Check

Check Number	Date	Vendor/Payee	Amount	Description
19120				Last check # from prior month's register
19121	11/4/2019	Phillip Frye	224.41	Reimbursement for retiree health benefits by check
19122	11/4/2019	James L. Johnson	187.74	Reimbursement for retiree health benefits by check
19123	11/4/2019	Byron Jones	221.44	Reimbursement for retiree health benefits by check
19124	11/4/2019	Bob Bally	88.86	Employee travel expense reimbursement: Northern Safety Day
19125	11/4/2019	Katherine Brouillet	130.18	Employee expense reimb: Break room supplies
19126	11/4/2019	CAL-CARD	11,547.63	State of California Purchase Card, August-September 2019
19127	11/4/2019	Caltest Analytical Laboratory	7,979.40	NPDES permit lab analyses, October 2019 (12 invoices)
19128	11/4/2019	Kyle B Carbajal	65.08	Employee travel expense reimbursement: Toxicity and Ethics Training
19129	11/4/2019	CWEA TCP	384.00	Membership renewal (2 employees)
19130	11/4/2019	Dee Consultants LLC	2,375.00	Prof Svcs: Construction management support, 09/16-10/15/2019
19131	11/4/2019	East Bay Muni Utility District	55,554.00	BACWA fees, 07/01/2019-06/30/2020
19132	11/4/2019	EPIC Compliance Systems, Inc.	1,440.00	Underground storage tank annual fee for monthly inspections, 07/01/2019-06/30/2020
19133	11/4/2019	Everfi Inc	2,500.02	Employee online training service annual fee
19134	11/4/2019	Evoqua Water Tech LLC	19,850.40	Calcium nitrate (2 deliveries)
19135	11/4/2019	Ken Grady Co., Inc.	379.83	Process control supplies
19136	11/4/2019	The Lab Depot	1,564.72	Chemicals, buffers, containers for lab (2 invoices)
19137	11/4/2019	Miller Pacific	3,420.80	Prof Svcs: Andersen Drive Hillside Project-Geotechnical Support Services, 09/089-10/20/2019, final payment
19138	11/4/2019	Marin Municipal Water District	2,692.77	Water service, 08/08-10/10/2019 (3 invoices)
19139	11/4/2019	Ricoh USA Inc	259.35	Lab copier lease, 10/09-11/08/2019
19140	11/4/2019	Ahn Ta	76.09	Employee expense reimb: Break room supplies
19141	11/4/2019	Thomas Fish Company	145.75	Rainbow trout for monthly bioassay test, October 2019
19142	11/4/2019	Tidal Marine Construction Inc	6,875.00	Outfall diffuser survey
19143	11/4/2019	Top Line Engineers Inc	53,605.00	Chlorine Contact Tanks 5 & 6 Coating project, final billing
19144	11/4/2019	Univar USA Inc	13,039.01	Sodium bisulfite (1 delivery); Sodium hypochlorite (2 deliveries) (3 invoices)
19145	11/4/2019	Abel Villarreal	88.16	Employee travel expense reimbursement: Northern Safety Day
19146	11/4/2019	Khavarian Enterprises Inc	5,110.49	Intrinsically safe radios for new hires (3) and replacements (3)
19147	11/4/2019	Wells Fargo Vendor	374.14	Maintenance copier lease, 10/13-11/12/2019
19148	11/4/2019	Ryan Word	87.92	Employee travel expense reimbursement: Northern Safety Day
19149	11/7/2019	Aramark Uniform Services	550.74	Uniform items, October 2019
19150	11/7/2019	Cropper Accountancy Corp.	5,000.00	Prof Svcs: Auditing services for FY19, final payment
19151	11/7/2019	Jason Dow	212.00	Employee travel per diem advance: CalPELRA Conference
19152	11/7/2019	Chris Finton	212.00	Employee travel per diem advance: CalPELRA Conference
19153	11/7/2019	Frontier Analytical Lab.	900.00	Quarterly PCB testing
19154	11/7/2019	Grainger	2,941.37	Heating coils, valves, saw blades, oxygen and nitrogen calibration gas, & misc. tools (15 invoices)
19155	11/7/2019	J.J. Keller & Associates Inc	995.00	Annual fee for online safety training service, 01/01-12/31/2020
19156	11/7/2019	Peter Kistenmacher	212.00	Employee travel per diem advance: CalPELRA Conference

Central Marin Sanitation Agency  
Operating Account Disbursements Register  
For the Month of November 2019

Check

Number	Date	Vendor/Payee	Amount	Description
19157	11/7/2019	Mark Koekemoer	212.00	Employee travel per diem advance: CalPELRA Conference
19158	11/7/2019	Lystek International LTD	14,790.16	Biosolids beneficial reuse fee, October 2019
19159	11/7/2019	Marin Office Supply	825.46	Office supplies, October 2019 (8 invoices)
19160	11/7/2019	Nickell Fire Protection Inc	1,425.00	Quarterly inspections for fire sprinkler systems and fire hydrants
19161	11/7/2019	Nitel Inc	1,297.82	Primary telephone and internet service, November 2019
19162	11/7/2019	Pacific EcoRisk	3,708.00	NPDES chronic toxicity testing
19163	11/7/2019	P.G.& E.	22,704.30	Electricity service, 09/17-10/15/2019 (3 invoices)
19164	11/7/2019	Rock Steady Juggling	2,500.00	Pub Ed Program: Outreach at five schools (2 invoices) (Note B)
19165	11/7/2019	Kenneth R Spray	357.93	Employee travel per diem advance: CalPELRA Conference
19166	11/7/2019	Super Bright Leds, Inc	2,967.29	Facility lighting equipment
19167	11/7/2019	Synagro West, Inc.	4,272.45	Biosolids land application fee, September 2019
19168	11/7/2019	Ahn Ta	135.00	Employee travel expense reimbursement: CalPERS Educational Forum 2019
19169	11/7/2019	The Cary Company	217.10	Sample containers for lab
19170	11/7/2019	Abel Villarreal	58.00	Employee expenses eligible for Agency Delta Dental reimb (06/30/2019)
19171	11/8/2019	California Public Employee	3,584.00	Contribution to Retiree Health Benefits Trust Fund, November 2019 (Note C)
19172	11/8/2019	California State Disbursement	250.50	EE Garnishment, PPE 11/02/2019 (Note A)
19173	11/8/2019	ICMA Retirement Trust-457	2,400.00	Deferred compensation contributions, PPE 11/02/2019 (Note A)
19174	11/8/2019	Navia Benefit Solutions	969.01	Flexible spending account, PPE 11/02/2019
19175	11/8/2019	SEIU Local 1021	1,017.30	Union dues, PPE 11/02/2019
19176	11/14/2019	AT&T Dataplan	386.58	Fax and emergency phone service, 11/02-12/01/2019
19177	11/14/2019	Christopher J Wilson	231.31	Business cards (1 employee)
19178	11/14/2019	CASA	16,711.00	Membership renewal, 12/31/2019-12/31/2020
19179	11/14/2019	Comcast	193.38	Internet service, 11/04-12/03/2019
19180	11/14/2019	CWEA TCP	384.00	Membership renewal (2 employees)
19181	11/14/2019	Diamond Diesel	4,089.48	Cogeneration engine turbo charger rebuild
19182	11/14/2019	Evoqua Water Tech LLC	30,109.67	Hydrogen peroxide (1 delivery); Calcium nitrate (2 deliveries); DI water for lab
19183	11/14/2019	Flyers Energy LLC	191.97	Headworks equipment lubrication oil (2 invoices)
19184	11/14/2019	GFOA	310.00	Annual membership fee, 01/01-12/31/2020 (2 employees)
19185	11/14/2019	IDEXX Distribution Inc	435.76	Testing supplies for lab
19186	11/14/2019	IEDA, Inc.	837.00	Labor relations consulting, November 2019
19187	11/14/2019	Koff & Associates, Inc.	7,500.00	Prof Svcs: Associate Engineer recruitment, Phase 2 & 3 payment
19188	11/14/2019	Lee & Ro, Inc	1,447.00	Prof Svcs: Main Switchgear Condition Assessment Project, 09/01-10/25/2019
19189	11/14/2019	Marin Independent Journal	488.32	Public Notice: Fee Ordinance (2 notices)
19190	11/14/2019	Marin Sanitary Service	3,148.85	Landfill and rag bins disposal, October 2019 (2 invoices)
19191	11/14/2019	Marin Resource Recovery Center	208.00	Yard waste and trash disposal, October 2019 (3 invoices)
19192	11/14/2019	Navia Benefit Solutions	50.00	Monthly fee, October 2019
19193	11/14/2019	OCCUMETRIC	825.00	Pre-employment testing (3 invoices)
19194	11/14/2019	Regional Monitoring Program	39,521.00	Annual fee for NPDES permit Regional Monitoring Program, 01/01-12/31/2020

Central Marin Sanitation Agency  
Operating Account Disbursements Register  
For the Month of November 2019

Check

Number	Date	Vendor/Payee	Amount	Description
19195	11/14/2019	Ricoh USA Inc	317.99	Admin copier lease, 10/23-11/22/2019
19196	11/14/2019	Anthony Smith	1,200.00	Employee Computer Loan program
19197	11/14/2019	Teledyne Instruments Inc	703.05	Vinyl suction line and discharge tubing for lab (2 invoices)
19198	11/14/2019	Thatcher Company	7,315.75	Ferric chloride (1 delivery)
19199	11/14/2019	Valley Power Systems-North	479.72	Spare parts for cogeneration engine
19200	11/14/2019	Waste Management	7,757.82	Biosolids hauling fee, October 2019
19201	11/25/2019	California State Disbursement	250.50	EE Garnishment, PPE 11/16/2019 (Note A)
19202	11/25/2019	ICMA Retirement Trust-457	2,400.00	Deferred compensation contributions, PPE 11/16/2019 (Note A)
19203	11/25/2019	Navia Benefit Solutions	969.01	Flexible spending account, PPE 11/16/2019
19204	11/25/2019	SEIU Local 1021	1,017.30	Union dues, PPE 11/16/2019
19205	11/25/2019	Amazing Solutions, Inc.	187.50	Finance software support, October 2019
19206	11/25/2019	Amazon	4,958.52	Tablets and accessories for ES inspections; routers, controllers, and computer supplies
19207	11/25/2019	Aramark Uniform Services	1,231.35	Uniform service, October 2019
19208	11/25/2019	Katherine Brouillet	662.70	Employee travel expense reimbursement: CSDA Board Secretary Conference
19209	11/25/2019	ChemStation of Northern Cal.	3,116.20	Odor control materials
19210	11/25/2019	Fisher Scientific	2,318.60	Chemicals, buffers, tubes, vials, and solutions for lab (12 invoices)
19211	11/25/2019	Hach Company	1,570.73	Chemicals and solutions for lab (5 invoices)
19212	11/25/2019	Linko Technology Inc	5,330.00	Software and license for remote source control software
19213	11/25/2019	Marin Forum	235.00	Annual membership fee, 01/01-12/31/2020
19214	11/25/2019	McInerney & Dillon, P.C.	115.50	Legal services, construction/contract law, October 2019
19215	11/25/2019	OCCUMETRIC	275.00	Pre-employment testing
19216	11/25/2019	Pacific EcoRisk	3,708.00	NPDES chronic toxicity testing
19217	11/25/2019	Pipette.com	127.00	Solutions and testing supplies for lab
19218	11/25/2019	State Water Resources Control	58,052.00	Annual NPDES Permit Fee, 07/01/2019-06/30/2020
19219	11/25/2019	VWR International	366.74	Testing supplies and filters for lab (2 invoices)
19220	11/25/2019	Wiley Price & Radulovich	3,115.00	Prof Svcs: Employment law services, October 2019

**Payments by Automatic Clearing House:**

11/4/2019	Payments to 26 retirees	7,090.81	Reimbursement for retiree health benefits
11/4/2019	Lincoln Life Ins	2,383.67	Life insurance
11/4/2019	Vision Service Plan -(CA)	924.24	Vision insurance
11/5/2019	CalPERS Medical ins	64,778.26	Medical insurance
11/12/2019	CalPERS	37,317.69	Retirement pension contribution: Agency and employees, PPE 11/02/2019 (Note C)
11/12/2019	EDD	13,662.05	State & SDI Taxes, PPE 11/02/2019
11/12/2019	NRS/PEHP-3 and Z	7,814.13	Deferred compensation and MARA contribution, PPE 11/02/2019
11/15/2019	CF Construction	22,800.00	Andersen Drive Landslide Repairs, payment #3
11/18/2019	Carollo	68,656.50	Prof Svcs: Design-New Cogeneration System Installation Project, October 2019
11/26/2019	CalPERS	37,318.22	Retirement pension contribution: Agency and employees, PPE 11/16/2019 (Note C)
11/26/2019	EDD	13,529.24	State & SDI Taxes, PPE 11/16/2019
11/26/2019	Dean DiGiovanni	225.00	Stipend for 11/12/2019 Board meeting

Central Marin Sanitation Agency  
 Operating Account Disbursements Register  
 For the Month of November 2019

Check

Number	Date	Vendor/Payee	Amount	Description
	11/26/2019	Doug Kelly	450.00	Stipend for 11/12/2019 Board meeting & 10/22/2019 ad hoc Space Evaluation Committee meeting
	11/26/2019	Michael Owen Boorstein	225.00	Stipend for 11/12/2019 Board meeting
	11/26/2019	Eli Beckman	225.00	Stipend for 11/12/2019 Board meeting
	11/26/2019	Maribeth Bushey	225.00	Stipend for 11/12/2019 Board meeting
	11/26/2019	PARS	231.12	Retirement pension contribution: part-time and internship employees, PPE 11/16/2019 (Note C)
	11/26/2019	Tyler	16,327.75	Incode financial software, 25% of license fee
		<b>Grand Total</b>	<b>774,014.60</b>	

Notes:

- A: Not an Agency Expense. Expense funded through Payroll deduction.
- B: Not an Agency Expense. CMSA will be reimbursed for this expense.
- C: CMSA is partially reimbursed for this expense per Employee Labor Agreements.

**CENTRAL MARIN SANITATION AGENCY  
SCHEDULE OF INVESTMENTS  
As of the Month Ended November 30, 2019**

Description	Book Value	Market Value (1)	% Portfolio	Projected Year End
<b>I. Pooled Investments with California Asset Management Program (CAMP)</b>				
Money Market Funds (< 1 year in maturity)				
CAMP Cash Reserve Pool: 1.88% at 11/30/19				
b1. Operating Reserve (Unrestricted) (2)	\$ 27,747.18	\$ 27,747.18		Sum b1. Below
b2. Emergency Reserve (Unrestricted)	250,000.00	250,000.00		\$ 250,000
b3. Insurance Reserve (Unrestricted)	100,000.00	100,000.00		\$ 100,000
<b>Total with CAMP</b>	<b>\$ 377,747.18</b>	<b>\$ 377,747.18</b>	<b>2.2%</b>	
<b>II. Pooled Investments with Local Agency Investment Fund (LAIF)</b>				
Money Market Funds (< 1 year in maturity)				
Local Agency Investment Fund (LAIF): 2.19% at 10/31/19				
a1. Current Operating Fund	\$ 3,509,537.63	\$ 3,509,537.63		
b1. Operating Reserve (Unrestricted) (2)	\$ 3,114,727.82	\$ 3,114,727.82		\$ 3,142,475
c1. Capital Reserves (Restricted) (3)	\$ 799,782.00	\$ 799,782.00		\$ 991,834
c2. Capital Reserves (Unrestricted) (4)	\$ 9,630,188.00	\$ 9,630,188.00		\$ 7,778,603
<b>Total with LAIF</b>	<b>\$ 17,054,235.45</b>	<b>\$ 17,054,235.45</b>	<b>97.8%</b>	
<b>TOTAL INVESTMENTS</b>	<b>\$ 17,431,982.63</b>	<b>\$ 17,431,982.63</b>	<b>100.0%</b>	


NOTES:

- (1) Market values are per the fiscal agent's respective monthly statements
- (2) Operating reserves calculated at 25% operating budget

- (3) Includes capacity charges and debt service coverage
- (4) Includes capital fee charges

Statement of Compliance

The above portfolio of investments is in compliance with the Agency's investments policy, adopted annually, and California Government Code Section 53601, authorized investments, and 53646, investments policy. In addition, the Agency does have the financial ability to meet its cash flow requirements for the next six months.

  
 \_\_\_\_\_  
 Kenneth Spray, CPA  
 Administrative Services Manager

CENTRAL MARIN SANITATION AGENCY  
CAPITAL RESERVES SUMMARY FOR THE SCHEDULE OF INVESTMENTS

Year-to-Date as of the Month Ended November 30, 2019

	Monthly Amounts Received (Used)	YTD Amounts Received (Used)
<b>Restricted Capital Reserves Sources and Uses</b>		
Capacity charges revenue	\$ 82,879	\$ 103,447
Debt coverage collection revenue	-	799,782
<b>Total restricted capital reserve funding sources</b>	<u>82,879</u>	<u>903,229</u>
Capacity charges usage for capital (1st)	(82,879)	(103,447)
Debt coverage usage for capital (2nd)	-	(993,302)
<b>Total restricted capital reserve uses</b>	<u>(82,879)</u>	<u>(1,096,749)</u>
Net change		(193,520)
Balance - beg of year		993,302
Balance - end of month/year		<u>\$ 799,782</u>
<b>Unrestricted Capital Reserves Sources and Uses</b>		
Capital fee revenue	\$ -	\$ 510,500
Unrestricted operating-reserve-transfer-in	-	-
SRF/FEMA cost reimb proceeds received	-	106,758
<b>Total unrestricted capital reserve funding sources</b>	<u>-</u>	<u>617,258</u>
Capital fee usage to fund CIP (3rd)	(42,448)	(246,190)
Unrestricted capital reserve draw (4th)	-	-
<b>Total unrestricted capital reserve uses</b>	<u>(42,448)</u>	<u>(246,190)</u>
Net change		371,068
Balance - beg of year		9,259,120
Balance - end of month/year		<u>\$ 9,630,188</u>
<b>Total capital reserve balances</b>		<u>\$ 10,429,970</u>
<b>Total approved CIP budget</b>		\$ 3,900,626
<b>Total CIP funded from capital reserve sources</b>		<u>(1,342,939)</u>
<b>Total approved capital budget remaining</b>		<u>\$ 2,557,687</u>






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**BOARD MEMORANDUM**

December 4, 2019

From: Chris Finton, Treatment Plant Manager

To: CMSA Commissioners and Alternates

Approved: Jason Dow, General Manager

**Subject: November 2019 NPDES Permit Compliance, Treatment Process, and Maintenance Activities Report**

**Recommendation:** Accept the November 2019 NPDES Permit Compliance, Treatment Process, and Maintenance Activities Report.

**I. NPDES Permit Compliance**

Our NPDES permit testing for November showed that the CMSA treatment plant effluent was in compliance with all permit limits. The Monthly Compliance Summary Table shows the results by permitted parameter, the sample's frequency, the sample results, and the permit limit. We successfully passed the November 96-hour flow through bioassay test. CMSA's NPDES permit specifies quarterly monitoring for enterococcus bacteria and for each wet-weather blend event to verify compliance with established effluent limits. The enterococcus geometric mean this past quarter was 12.2 MPN, well below our monthly limit of 35 MPN.

**II. Influent Flow**

November in central Marin County saw the temperatures drop from a high of 76° at the beginning of the month down to 45° by the end of the month. It also marked the first significant rain event of the season; 1.3 inches of rain was recorded at the Agency's rain gauge. The treatment plant's average daily influent flow was 9.1 MGD.

The CMSA treatment plant and each satellite collection agency's daily average and total monthly influent flows are shown in the table below:

<b>November Monthly Influent Flows</b>	<b>San Rafael (SRSD)</b>	<b>Ross Valley (RVSD)</b>	<b>San Quentin (SQSP)</b>	<b>Corte Madera (SD#2)</b>	<b>CMSA Plant Total</b>
Average Daily (MGD)	3.4 MGD	4.4 MGD	0.45 MGD	0.89 MGD	9.1 MGD
Total for Month (MG)	102.6 MG	131.4 MG	13.5 MG	26.7 MG	274.2 MG
Percent of Flow	37.4 %	47.9 %	4.9 %	9.8 %	100 %

### **III. Treatment Process**

The effects of the late October public safety power shutoffs on the facility's secondary treatment systems carried over into early November. Operators spent additional time ensuring final effluent quality not only met NPDES permit requirements but also met CMSA's KPI parameters. The septic conditions of the influent from the collection systems affected the settling conditions within the secondary clarifiers but this was quickly and effectively managed by adjusting air and wasting rates within the aeration basins. The turn in the weather this past month facilitated the drop in influent flow temperatures to below 74° F, which allowed staff to shut down the odor control stations within the collection system for the season. Staff also spent time verifying that all of the facility's dechlorination solution conveyance piping was adequately heated. SBS, the dechlorination chemical, will crystallize at approximately 43°F, so a heated cable is fastened to these pipes to ensure the solution's temperature remains above this threshold.

The Mixed Liquor Suspended Solids (MLSS) inventory averaged 1,115 mg/l in November, a 36.6% increase in inventory from last month. This increase in biomass is in alignment with our target Mean Cell Residence Time (MCRT) of 3.1 days.

Graph No. 3 shows the coliform most probable number (MPN), which represents the effectiveness of the disinfection process. All fifteen coliform samples collected in November were below our monthly KPI of 30 MPN, and well below our daily permit limit of 10,000 MPN. The total coliform monthly geometric mean for November was 1.4 MPN, well below our permit's monthly limit of 240 MPN.

Graph No. 4 shows the Total Suspended Solids (TSS), which is a good indicator of the effluent quality. The TSS monthly average in November was 4.8 mg/l, which is 32% of our Key Performance Indicator (KPI) of 15 mg/l, and is 16.0% of our permit's monthly average limit of 30 mg/l.

### **IV. Maintenance Activities**

The cogeneration system produced 97.4% of the Agency's power in November, and MCE supplied the balance. The generator, as indicated on Graph #8, was temporarily out of service for two hours on November 7 due to a utility power outage that day.

The majority of November's work activities were spent performing annual process equipment preventative maintenance. In addition, technicians replaced the drive motor on Centrifuge No. 3, replaced fluorescent lighting and fixtures with new LED equipment on the second floor of the Solids Handling Building, replaced the motor on grit separation pump No. 5, replaced the cutter bars and repaired a small hole in the Organic Waste facility's rock trap grinder, and replaced a ruptured hose and lubricant on a digester feed pump. Staff also supported SD2 early in the month with an emergency sewer trunk line cleaning project, the installation of one variable frequency drive at Paradise pump station, and a wiring repair at Fifer pump station. CMSA staff also completed a small project to improve the resiliency of the communications between the pump stations and CMSA.

#### **Attachment:**

- November 2019 NPDES Permit Compliance, Treatment Process, and Maintenance Activities Report

**NPDES Permit Compliance, Treatment Process, and Maintenance Activities Report**  
**November 2019**



**Receiving a delivery of Sodium Bisulfite Solution in preparation for the onset of a large storm event.**



## Monthly Compliance Summary Table

Central Marin Sanitation Agency

November, 2019

### Final Effluent Monitoring

Parameter	Frequency	Units	Results	Limit
Carbonaceous BOD Highest Weekly Average	Weekly	mg/L	7.3	Maximum 40
Carbonaceous BOD Monthly Average	Monthly	mg/L	4.7	Maximum 25
Carbonaceous BOD Monthly Removal Rate	Monthly	%	98.5	Minimum 85
Total Suspended Solids Highest Weekly Average	Weekly	mg/L	5.4	Maximum 45
Total Suspended Solids Monthly Average	Monthly	mg/L	4.4	Maximum 30
Total Suspended Solids Monthly Removal Rate	Monthly	%	99.0	Minimum 85
Chlorine Residual Instant Limit	Instant	mg/L	ND	Maximum 0.0
Ammonia Monthly Average	Monthly	mg/L	44.0	Maximum 60
Ammonia Maximum Daily	Daily	mg/L	45.4	Maximum 120
pH Lower Limit	Continuous	SU	6.7	Minimum 6
pH Upper Limit	Continuous	SU	7.1	Maximum 9
<b>Bacteriological Analysis</b>				
Total Coliform Monthly Geometric Mean	3 X Week	MPN/100mL	1.4	Maximum 240
Total Coliform Daily Maximum	3 X Week	MPN/100mL	4.5	Maximum 10,000
Enterococcus Quarterly Geometric Mean	Quarterly	MPN/100mL	12.2	Maximum 35
<b>Flow Through Bioassay</b>				
Acute Toxicity 11 Sample 90th Percentile	Monthly	% survival	100	Minimum 70
Acute Toxicity 11 Sample Median	Monthly	% survival	100	Minimum 90
<b>Metals Analysis</b>				
Copper Daily Limit	Monthly	ug/L	4.8	Maximum 85
Copper Monthly Average	Monthly	ug/L	4.8	Maximum 49
Cyanide Daily Limit	Monthly	ug/L	ND	Maximum 41
Cyanide Monthly Average	Monthly	ug/L	ND	Maximum 21
Mercury Weekly Average	Weekly	ug/L	0.0022	Maximum 0.072
Mercury Monthly Average	Monthly	ug/L	0.0022	Maximum 0.066
Mercury Monthly Loading	Monthly	kg/mo	0.00169	
Mercury Annual Loading (watershed permit)	Jan-Dec	kg/yr	0.08518	Maximum 0.11
<b>Permit Analysis</b>				
Dioxin - Total Equivalents (TEQ) Daily Maximum	1/Permit Cycle	ug/L	*	Maximum 2.8E-08
Dioxin - Total Equivalents (TEQ) Monthly Average	1/Permit Cycle	ug/L	*	Maximum 1.4E-08
Polychlorinated Biphenyls (PCBs) Daily Limit	1/Permit Cycle	ug/L	*	Maximum 0.017
Polychlorinated Biphenyls (PCBs) Monthly Limit	1/Permit Cycle	ug/L	*	Maximum 0.012
<b>Semiannual and Quarterly Analysis</b>				
Oil and Grease Daily Limit	Semiannual	mg/L	ND	Maximum 20
Oil and Grease Monthly Average	Semiannual	mg/L	ND	Maximum 10
Chronic Bioassay Toxicity	Quarterly	Tuc	ND	Maximum 20
Chronic Bioassay Toxicity (3 sample median)	Quarterly	Tuc	ND	Maximum 10
<b>Flow Analysis</b>	<b>Daily Max</b>	<b>Hourly Max</b>	<b>5 minute Max</b>	<b>Monthly Average</b>
Effluent Flow	11.2	18.6	21.4	7.1
Influent Flow	13.2	33.0	42.8	9.1
# Days Blended				0

\* Monitoring Not Required This Month ND = None Detected X = Data not available at report time J = Detected but not Quantified

## Glossary of Terms

### NPDES Permit Compliance Summary Table

- **Ammonia:** CMSA's NPDES permit requires that we analyze the final effluent for ammonia due to its toxicity to aquatic organisms and potential for providing nutrients to algae in the San Francisco Bay. The permit has a maximum daily limit of 120 mg/L and a monthly average limit of 60 mg/L. The maximum daily limit is the number that cannot be exceeded on any sample and the monthly average applies to all samples collected in any month (although typically we are required to take only one sample).
- **Biochemical Oxygen Demand (BOD):** The amount of dissolved oxygen needed by microorganisms (biomass) to stabilize organic material in the effluent. The permit limits for our effluent require that removal of 85% influent BOD, and meet a weekly average of less than 40 mg/L and a monthly average of less than 25 mg/L BOD.
- **Chlorine Residual:** The secondary effluent is disinfected with hypochlorite (chlorine "bleach"), and then the residual chlorine is neutralized with sodium bisulfite to protect the Bay environment. The final effluent chlorine residual limit is 0.0 mg/l, which is monitored continuously.
- **Bacteria:** Coliform and enterococcus bacteria are the indicator organisms for the determination of the effectiveness of the disinfection process.
- **Dioxin - Total Equivalents:** These are 17 dioxin-like compounds that we analyze for twice per year which have permit limits.
- **Oils and Grease:** We are required to monitor our effluent for Oils and Grease quarterly.
- **Flow Through Bioassay:** A 96-hour test in which we test the toxicity of our effluent to young rainbow trout (15-30 days old) in a flow-through tank to determine their survivability under continuous exposure to CMSA effluent. The permit requires that we maintain a 90<sup>th</sup> percentile survival of at least 70% and an 11-sample median survival of at least 90%. In layman's terms, this means that out of the last 11 samples, only one bioassay may fall below 70% survival, and the middle value—when all 11 samples are placed in numerical order—must be at least 90%.
- **Metals Analysis:** Our permit requires that we analyze our effluent for many different metals on a monthly basis. We have permit limits for three of the metals. The limits are stated as a maximum daily limit and a monthly average limit.
- **pH:** pH is a measurement of acidity, with pH 7.0 being neutral and higher pH values being basic and lower pH values being acidic. Our permit effluent pH must stay within the range of 6.0 to 9.0, which we monitor continuously.
- **Total Suspended Solids (TSS):** Measurement of suspended solids in the effluent. Our permit requires that we remove at least 85% of the influent TSS and that the effluent limit is less than 45 mg/L as a weekly average and less than 30 mg/L as a monthly average.

**EXECUTIVE SUMMARY PROCESS PERFORMANCE DATA**  
**November 2019**

The removal efficiencies shown are based on the monthly average of the following treatment processes that were in service.

**PRIMARY CLARIFIER PERFORMANCE**

Average Total Suspended Solids (TSS) in:	525.6	mg/l	<i>Expected removal efficiencies as outlined in Metcalf &amp; Eddy Wastewater Engineering Manual.</i>
Average TSS out:	160.7	mg/l	
Average Percent Removal Achieved:	67.2	%	<b>Design 50-70% Removal</b>
Average Total Carbonaceous Biochemical Oxygen Demand (CBOD) in:	352.2	mg/l	
Average CBOD out:	165.2	mg/l	
Average Percent Removal Achieved:	50.6	%	<b>Design 25-40% Removal</b>
Average Plant Influent Flows:	9.1	MGD	

**BIOTOWER PERFORMANCE**

Average TSS out:	123.5	mg/l	
Average CBOD out:	64.5	mg/l	
Average Percent CBOD Removal Achieved:	60.4	%	<b>Design 25-30% Removal</b>

**AERATION TANKS/ACTIVATED SLUDGE**

Dissolved Oxygen set point:	2.02	mg/l
Average MLSS:	1,114.6	mg/l
Average MCRT:	3.11	Days
Average SVI:	168	

**SECONDARY CLARIFIERS**

Average WAS concentration:	6,117	mg/l
Average TSS out:	7.1	mg/l

**FINAL EFFLUENT**

Average Effluent TSS for the month:	4.8	mg/l	(Maximum Limit: 30mg/l)
Week #1 weekly average	4.7	mg/l	(Maximum Limit: 45mg/l)
Week #2 weekly average	4.1	mg/l	"
Week #3 weekly average	3.7	mg/l	"
Week #4 weekly average	4.6	mg/l	"
Week #5 weekly average	7.4	mg/l	"
Monthly average TSS removal efficiency through the plant:	99.0	%	(Minimum Limit: 85%)

Average Effluent CBOD:	4.7	mg/l	(Maximum Limit: 25mg/l)
Week #1 weekly average	5.3	mg/l	(Maximum Limit: 40mg/l)
Week #2 weekly average	3.0	mg/l	"
Week #3 weekly average	3.3	mg/l	"
Week #4 weekly average	5.0	mg/l	
Week #5 weekly average	7.3	mg/l	"
Monthly average CBOD removal efficiency through the plant:	98.5	%	(Minimum Limit: 85%)

Disinfection Dosing Rate:	3.1	mg/l	monthly average
Total Coliform Monthly Geometric Mean:	1.4	MPN	(Maximum 240)
The Daily Maximum Total Coliform Count for the month:	4.5	MPN	(Maximum 10,000)
Enterococcus Monthly Geometric Mean:	N/A	MPN	(Maximum 35 MPN)
Effluent pH for the month was:	Min	6.7	MPN (Min 6.0)
	Max	7.1	MPN (Max 9.0)

**DIGESTER TREATMENT**

Average Thickened Waste Concentration from the RDT:	7.08	%	
Average percent of Volatile Solids destroyed:	86.5	%	
Cubic feet of biogas produced:	8,450,140 (Total)		281,671 (Daily Average)
Average temperature of the digester:	102.0	degrees Fahrenheit	

## EXECUTIVE SUMMARY PROCESS PERFORMANCE DATA

November 2019

The removal efficiencies shown are based on the monthly average of the following treatment processes that were in service.

### DEWATERING

Average Centrifuge Feed concentration:	2.6	%
Average Biosolids concentration:	26.0	%
Average TSS of the Centrate:	193	mg/l
Solids capture of the Centrifuge:	99.33	%
Polymer use per Dry ton of biosolids:	12.94	#/dry ton
Average polymer feed rate per run:	3.79	gpm
Average concentration of the polymer batches:	0.328	%
Average sludge feed rate per run:	56.2	gpm

### Comments:

The treatment plant has been running well with final effluent being of very good quality.

### Graph #1:

*Depicts the total influent flow (from all collection agencies) entering the treatment plant.*

The red graph line represents total influent flows; and the black graph line depicts the CMSA rain gauge recordings for the month. The first wet weather event of the season arrived on 11/26, bringing 1.3 inches of rain to the facility.

### Graph #2:

*Depicts individual collection agency flows.*

The Y-axis is in the dry weather flow range of 0-12 MGD.

### Graph #3:

*Depicts the coliform most probable number (MPN) results which are an indication of the performance of the disinfection system.*

The monthly Total Coliform Geometric Mean was 1.4 MPN through November, which is less than our KPI median of 30 MPN and permit limit of 240 MPN.

### Graph #4:

*Depicts the total suspended solids in the effluent.*

Our monthly average was 4.8 mg/l versus our KPI of 15 mg/l and permit monthly average limit of 30 mg/l. The high effluent suspended solids data point on 11/29 can be attributed to bio-growth sloughing following increased flows of the rain event on 11/26.

### Graph #5:

*Depicts the effluent CBOD which is measuring the oxygen demand of the wastewater.*

The November effluent CBOD average was 4.2 mg/l, well below our NPDES limits of 40 mg/l weekly and 25 mg/l for the month.

### Graph #6:

*Depicts the degree to which the biosolids have been dewatered.*

Our biosolids % concentration met or exceeded our KPI of 25% for twenty-eight (28) days in November. Only two days 11/10 and 11/11 did the concentration fall below the KPI, 24.9% and 24.2%, respectively.

### Graph #7:

*Depicts the amount of biogas that is produced in the digesters, measured by a flow meter, and then used to produce electricity.*

Biogas production in November averaged 281,671 cubic feet per day, which exceeded our monthly KPI of 200,000 cubic feet per day. The low biogas production depicted on 11/17 was due to fewer organic waste deliveries than normal.

### Graph #8:

*This graph depicts the amount of energy produced through cogeneration versus the energy purchased from MCE for Agency operations. The green line represents power exported to the grid. The loss in power production on 11/7 was the result of a utility power outage. In November, CMSA exported 58,843kW, and on 11/3 and again on 11/9, the facility's power demand was 100% furnished by on-site biogas power generation.*



## Glossary of Terms Process Performance Data Sheet

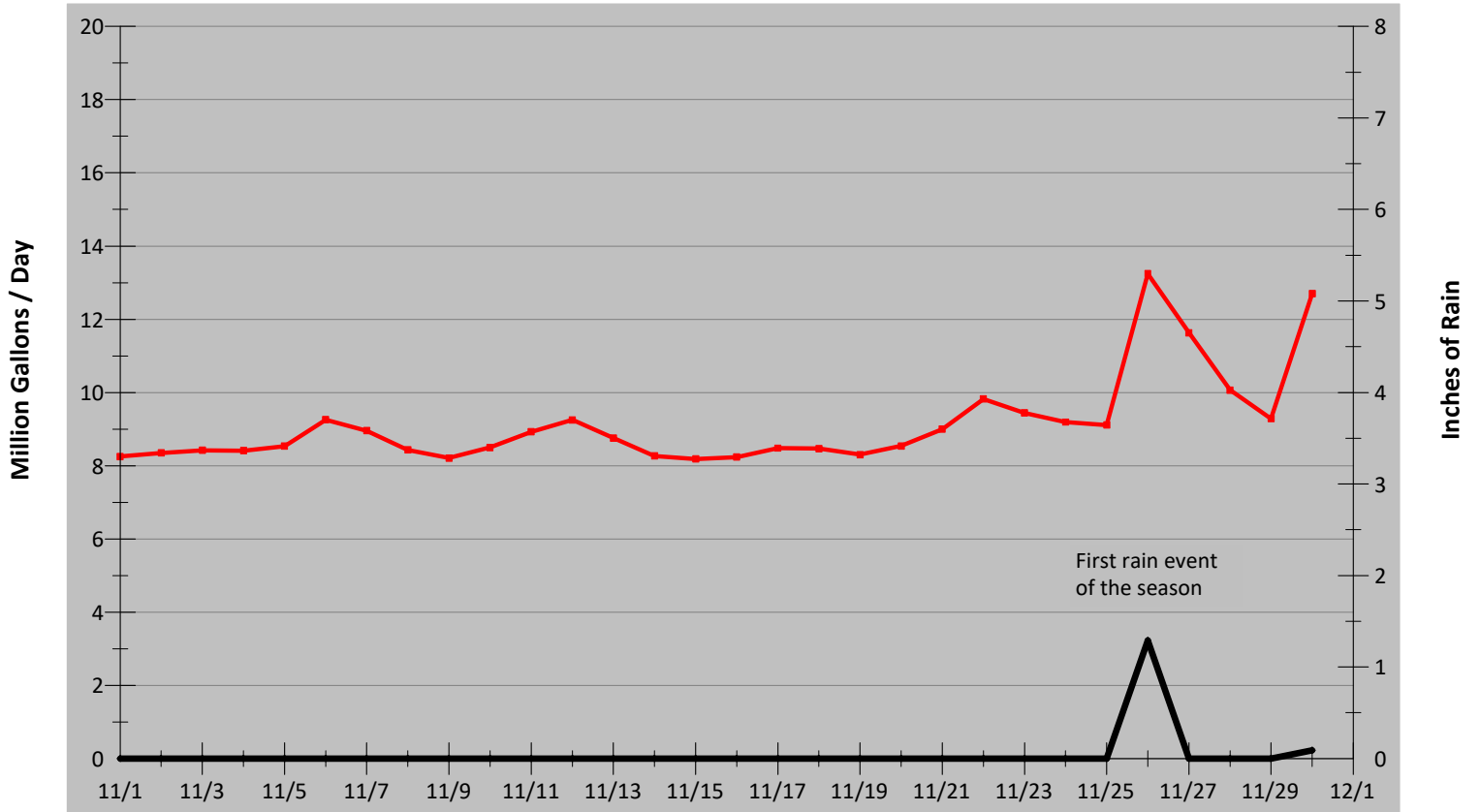
- **Aeration Tanks:** A biological process that takes place after the biotowers, where biomass (microorganisms) is mixed with the wastewater to feed on dissolved and suspended organic material. High speed blowers are used to provide compressed air to mix the tank contents.
- **Anaerobic Digesters:** In the anaerobic digestion process, organic material removed in the primary and secondary clarifiers is digested by anaerobic bacteria. The end products are methane, carbon dioxide, water, stabilized organic matter, and some inorganic material.
- **Biosolids:** Anaerobically digested solids that are removed from the two digesters, dewatered, and then beneficially reused. Beneficial reuse may include landfill alternate daily cover (ADC ), land application in the summer as a soil amendment and fertilizer, or converted into a liquid fertilizer for agricultural applications.
- **Biotower:** A biological treatment process, occurring after the primary clarifiers and before the aeration tanks, in which the wastewater trickles over a biomass-covered media. The biomass feeds on the dissolved and suspended solids in the wastewater.
- **Centrifuge:** Process equipment used to dewater biosolids prior to beneficial reuse.
- **Cogeneration System:** A system comprised of a dual-fuel engine coupled to an electric generator that is used to produce energy to power the Agency facilities. Fuels the system uses are methane biogas produced in the anaerobic digesters and, when biogas is not available, purchased natural gas. As well as generating electricity, the system supplies heat for plant processes and building heating.
- **Chlorine Contact Tanks (CCTs):** The final treatment process is disinfection and de-chlorination. The CCTs allow contact time for injected chlorine solution to disinfect the wastewater. Sodium bisulfite, the de-chlorination chemical, is introduced at the end of the CCTs to neutralize any residual chlorine to protect the San Francisco Bay environment.
- **Rotary Drum Thickener (RDT):** Waste activated sludge removed from the secondary clarifiers is thickened in rotary drum thickeners before being transported to the anaerobic digesters. Thickening removes some of the sludge's water content, to decrease hydraulic loading to the digesters.
- **Final Effluent:** After all the treatment processes are completed, the final effluent is discharged into to central San Francisco Bay through a 10,000-foot-long deep-water outfall.
- **Mean Cell Residence Time (MCRT):** An expression of the average time that a microorganism will spend in the secondary treatment system.
- **Mixed Liquor Suspended Solids (MLSS):** The liquid in the aeration tanks is called MLSS and is a combination of water, solids, and microbes. Suspended solids in the MLSS measured in milligrams per liter (mg/l).

- **Most Probable Number (MPN):** Concentrations, or number of colonies, of total coliform bacteria are reported as the “most probable number.” The MPN is not the absolute count of the bacteria but a statistical estimate of their concentration.
- **Polymer:** Polymer is added to digested sludge prior to dewatering to improve solids coagulation and water separation.
- **Primary Clarifier:** A physical (as opposed to biological) treatment process where solids that settle or float are removed and sent to the digesters for further processing.
- **Return Activated Sludge (RAS):** The purpose of returning activated sludge (biomass) to the aeration tanks is to maintain a sufficient concentration of microbes to consume the wastewater’s dissolved solids.
- **Secondary Clarifiers:** Provides settling for the biomass after aeration. Most of the settled biomass is returned to the aeration tank as return activated sludge (RAS) and some is sent to the RDT unit as waste activated sludge.
- **Sludge Volume Index (SVI):** This is a calculation used to indicate the settling ability of the biomass in the secondary clarifiers.
- **Thickened Waste Activated Sludge (TWAS):** Waste activated sludge is thickened in the RDTs, and then the TWAS product is pumped to the digester for processing.
- **Volatile Solids:** Organic content of the wastewater suspended solids.
- **Waste Activated Sludge (WAS):** Biomass that is removed from the secondary clarifiers pumped to the RDTs for thickening.

### Units of Measurement

- kg/month (Kilograms per Month): 1 kilogram = 2.205 lbs.
- KPI (Key Performance Indicators): The Agency’s process performance goals.
- Kwh (Kilowatt Hours): A unit of electric power equal to using 1 Kw for 1 hour.
- Milligrams per Liter (mg/L ): A measure of the concentration by weight of a substance per unit volume. For practical purposes, one mg/L is equal to one part per million (ppm).
- MPN/100mL (Most Probable Number per 100 milliliters): Statistical estimate of a number per 100 milliliters of a given solution.
- Percent by Mass (% by mass): A measure of the combined mass of a solute + solvent.
- Percent by Volume (% by vol): A measure of the volume of a solution.
- ug/L (Micrograms per Liter of Solution): Mass per unit volume.

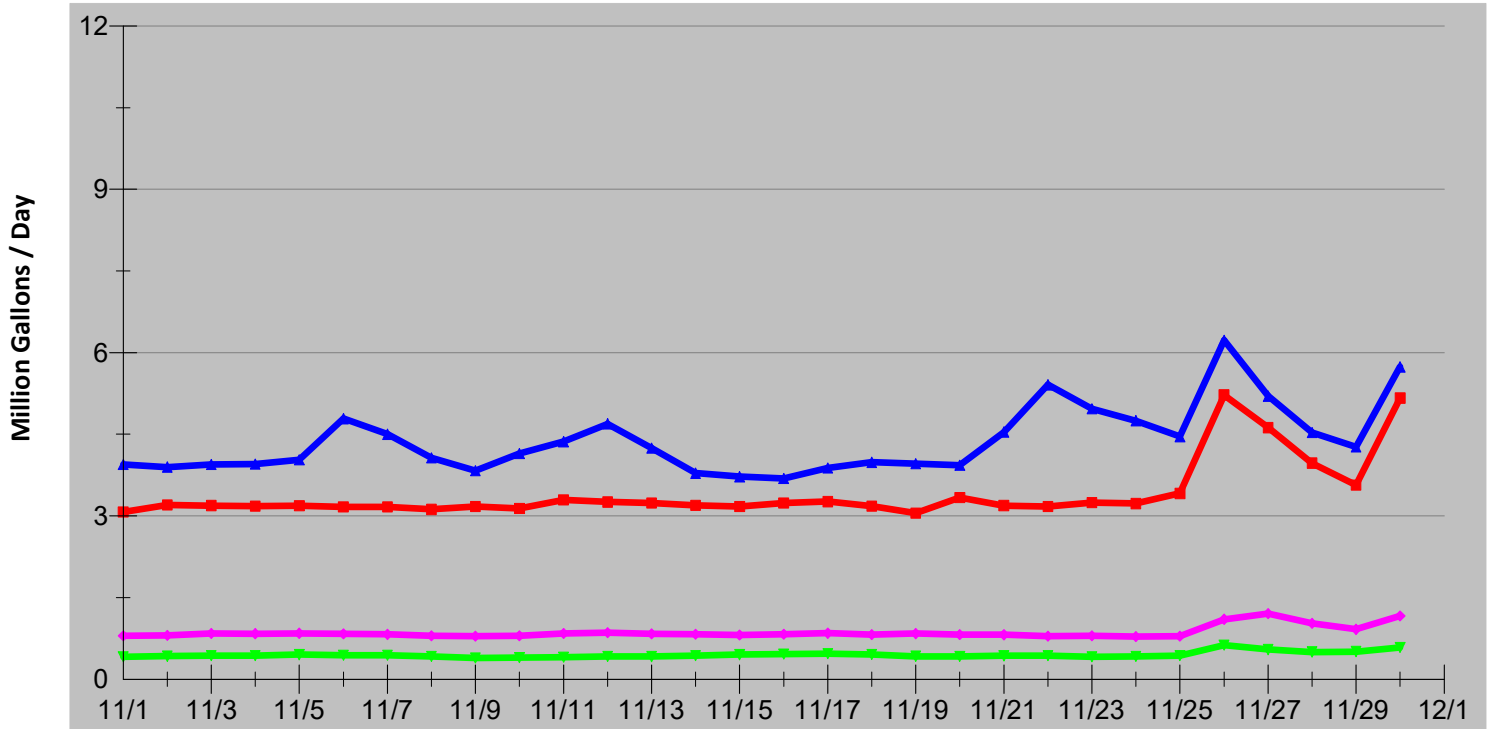
**Graph #1: CMSA Influent Flow**



Date ( 11/1/2019 to 11/30/2019 )  
 ■ Flow (Daily Average) ◆ Rainfall

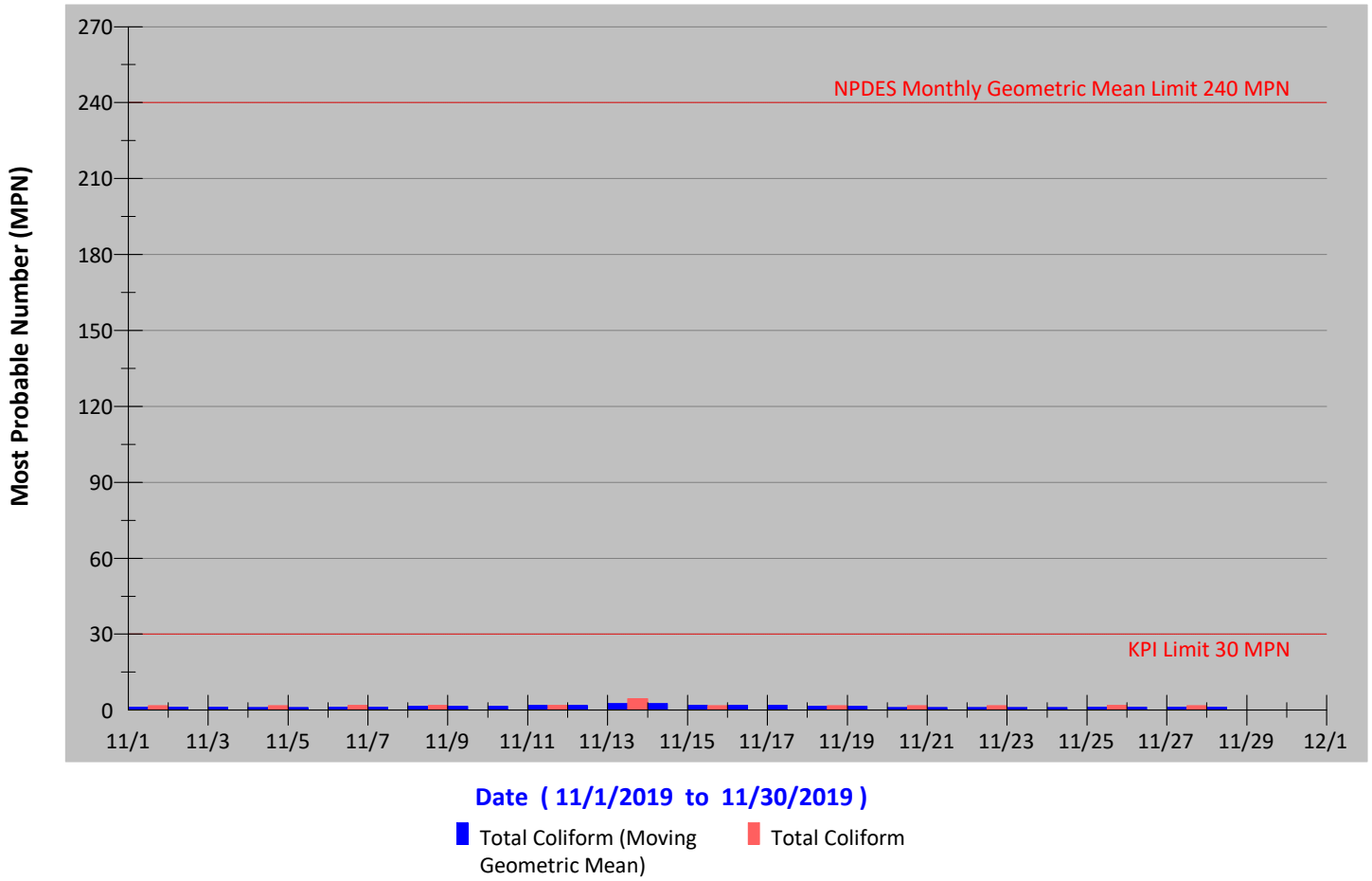
(#1) CMSA Influent Flow

**Graph #2: Collection System Influent Flows**



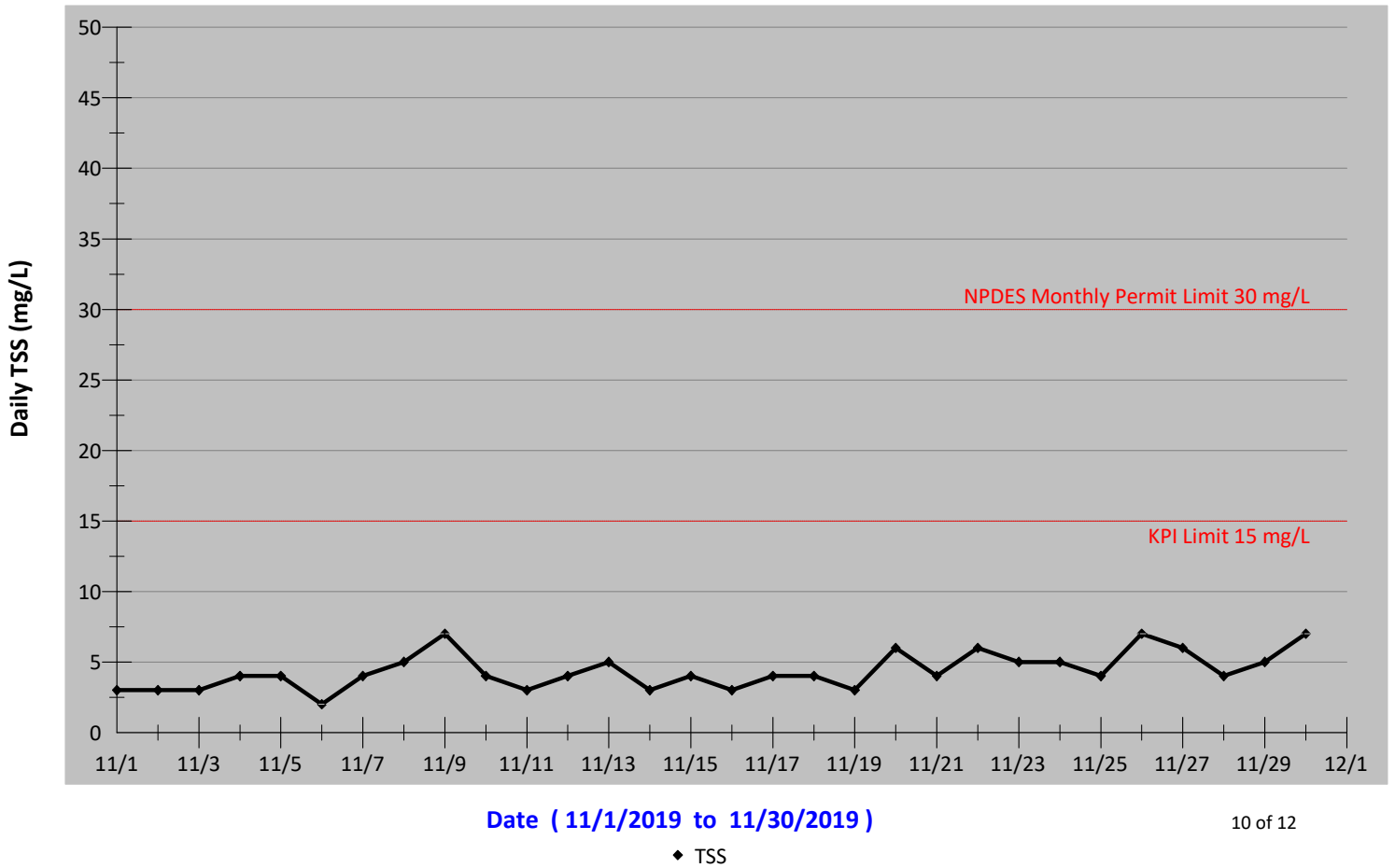
Date ( 11/1/2019 to 11/30/2019 )  
 ▲ RVSD Flow (Daily Average) ■ SRSD Flow (Daily Average) ▼ SQ Flow (Daily Average) ◆ SD#2 Flow (Daily Average -Par)

**Graph #3: Total Coliform & Monthly Geometric Mean**



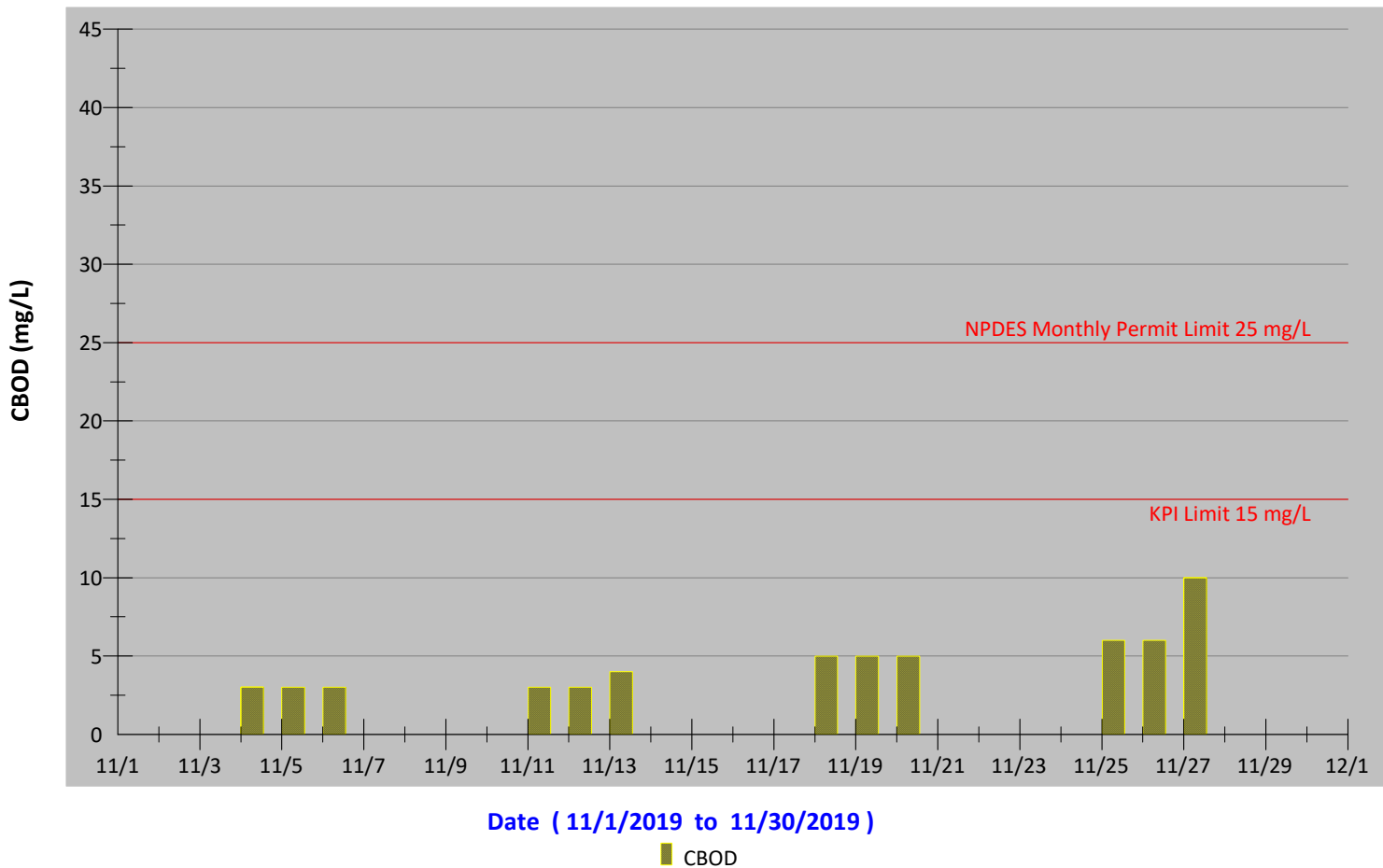
(#3) Total Coliform & Monthly Geometric Mean

**Graph #4: Effluent Total Suspended Solids (TSS)**



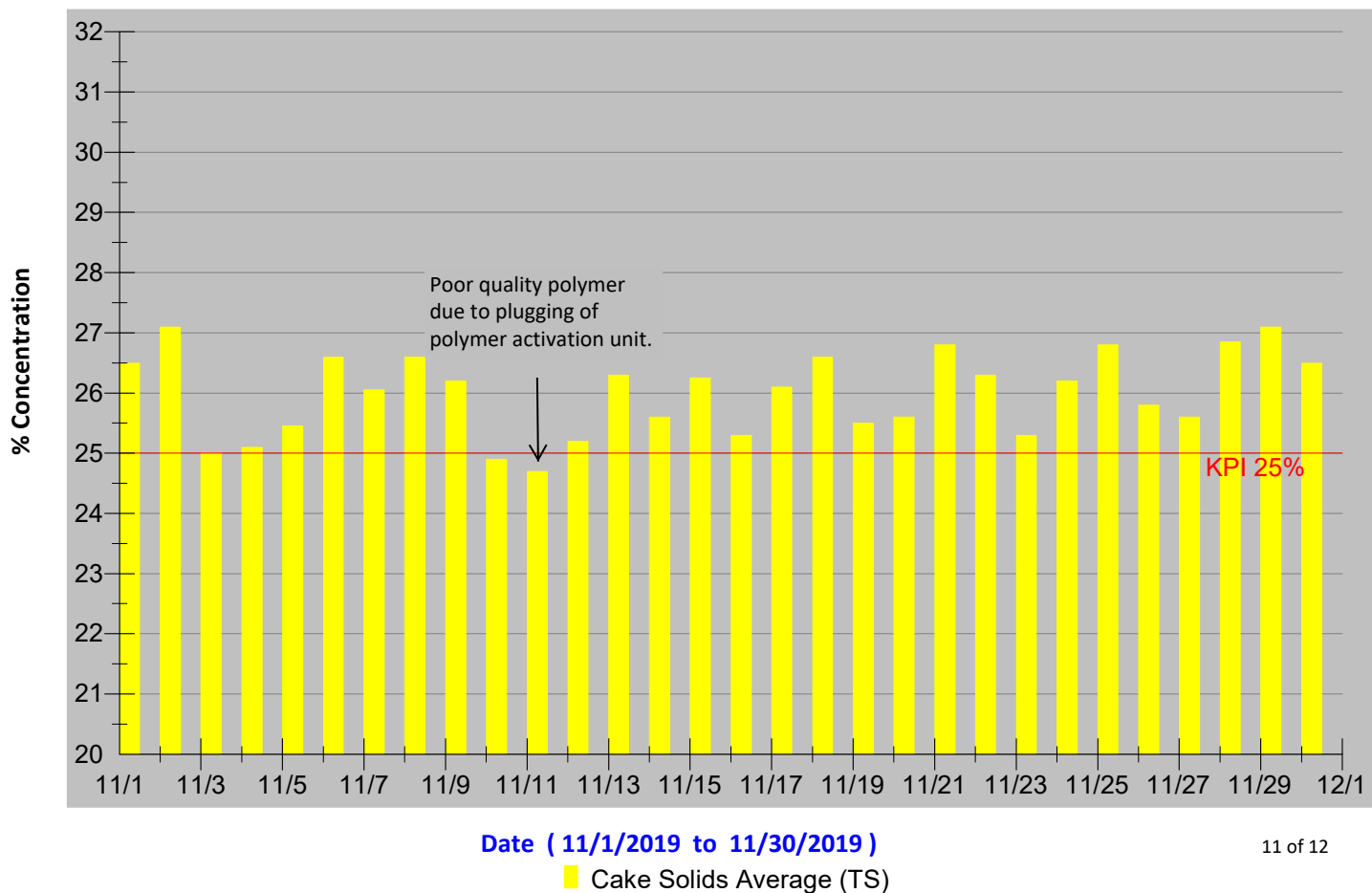
(#4) Effluent Total Suspended Solids (TSS)

**Graph #5: Effluent Carbonaceous Biological Oxygen Demand (CBOD)**



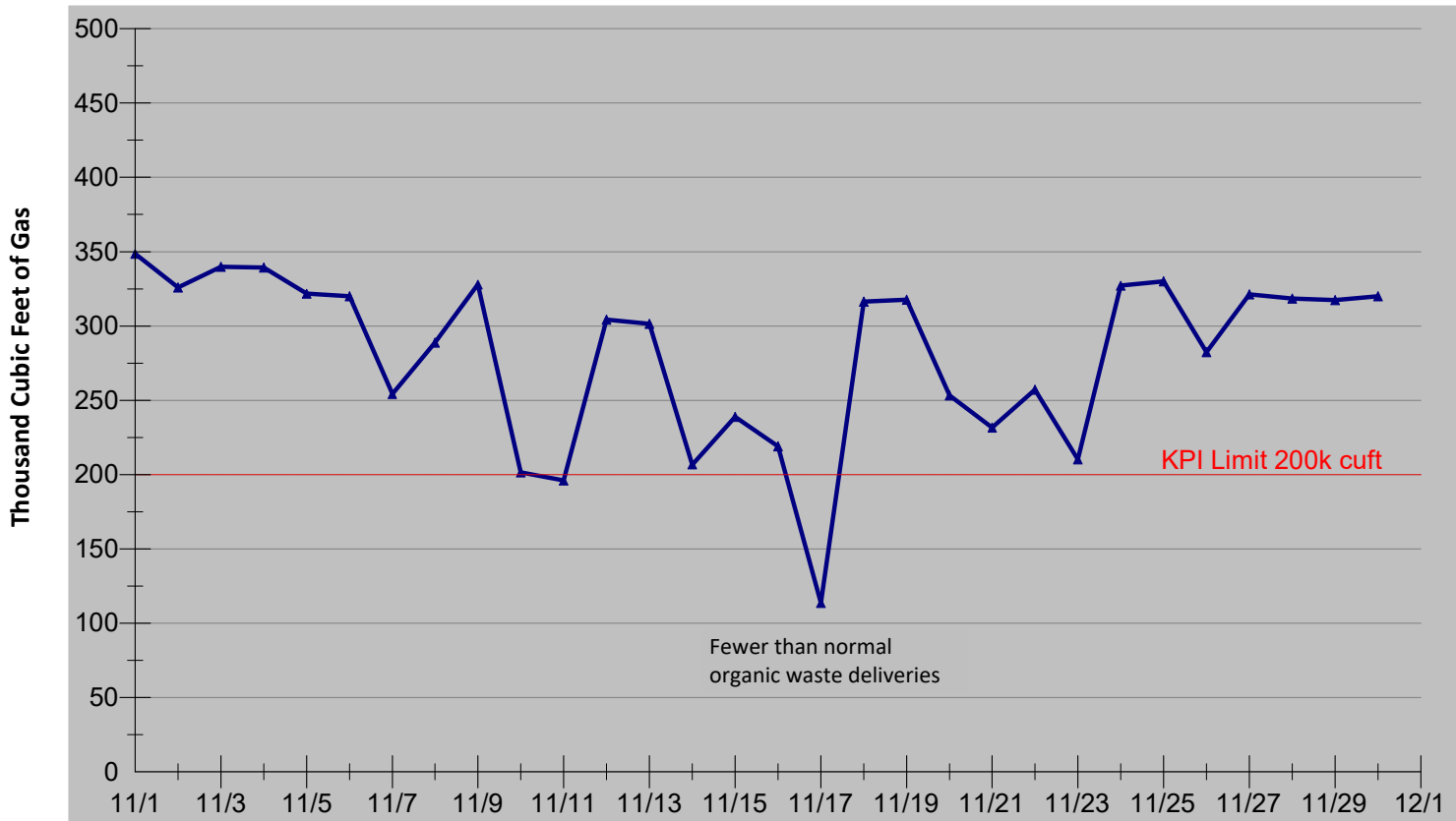
(#5) Effluent Carbonaceous Biological Oxygen Demand (CBOD)

**Graph #6: Biosolids Concentration**



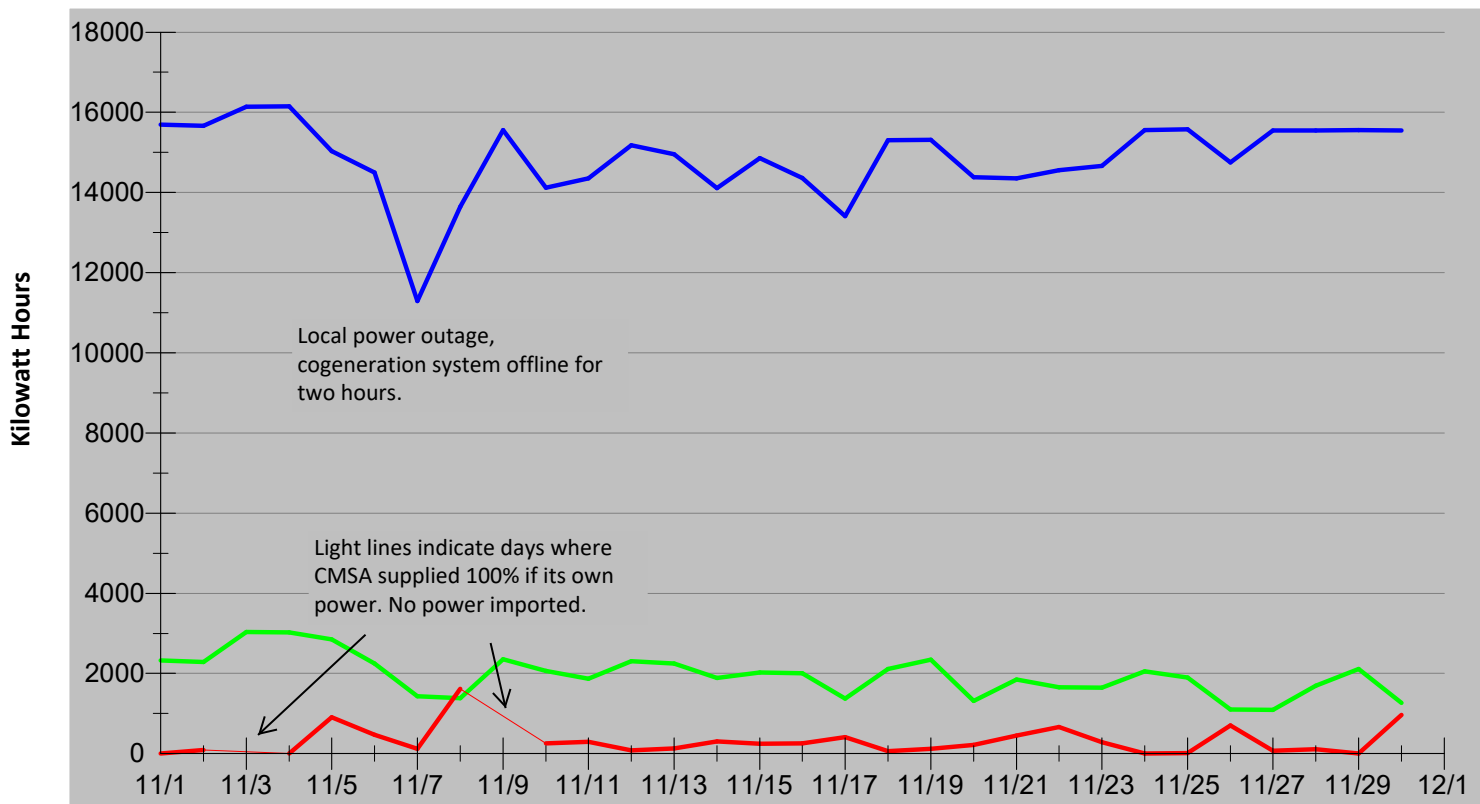
(#6) Biosolids Concentration

**Graph #7: Biogas Production (Measured Use)**



(#7) Biogas Production

**Graph #8: kW/hr Purchased vs. kW/hr Produced vs. kW/hr Exported**



12 of 12

(#8) Kilowatt Hours Purchased vs. Kilowatts Produced



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**BOARD MEMORANDUM**

December 4, 2019

To: CMSA Commissioners and Alternates

From: Jason Dow, General Manager

**Subject: Performance Metric Report – November 2019**

**Recommendation:** Accept the November 2019 Performance Metric Report.

**Performance Summary:** The Agency’s performance in operations and maintenance activities, regulatory and environmental compliance, and public education and outreach met or exceeded our metric goals/targets. Noteworthy metrics or variances are described below.

Table I – Treatment/Process Metrics

Influent and effluent flows have remained consistent over the summer and fall months, and final effluent quality continues to exceed our performance targets. With the wet weather season starting in late-November this year, flows will begin to increase and additional treatment systems and process tanks will be brought on-line to maintain effluent quality.

Table II – Employee Metrics

On-site training included web based Ethics training for selected staff, Personal Protective Equipment (PPE), Blood Bourne Pathogen, and IIPP safety training for several staff, and classification specific development training.

Several staff attended the CWEA sponsored Northern Safety Day in Woodland, and the senior managers attended the annual California Public Employer Labor Relations (CalPELRA) conference in Monterey.

Table III - Environmental and Regulatory Compliance Metrics

There weren’t any NPDES final effluent permit exceedances November, and all regulatory reports were submitted on schedule. Source control staff completed 49 inspections in the CMSA and contract agency service areas, and annual dental offices inspections are underway and anticipated to be completed in December.

Table IV - Public Outreach

There were two odor alerts posted to the website over the past month, and the Agency did not receive any public odor complaints. Alerts were posted for taking primary clarifiers out of service for various maintenance work.

Monthly public education events may include staff attendance at public outreach events, school classroom and/or juggler show presentations, and Agency tours. Events over the past month are presented below with the event date and number of attendees.

Public Outreach Events

<u>Date</u>	<u>Event</u>	<u>Attendees</u>
11/15	Glenwood Elementary Career Fair	45

School Events – Juggler Show Presentations and Classroom Events

<u>Date</u>	<u>School</u>	<u>Attendees</u>
11/6	Coleman Elementary in San Rafael	203
11/8	Park Elementary in Mill Valley	348
11/8	Glenwood Elementary in San Rafael	445

CMSA Tours

<u>Date</u>	<u>Group</u>	<u>Attendees</u>
11/15	NBC Bay Area reporter	3

**Attachment:**

- November 2019 Performance Metric Report



## CMSA CY19 PERFORMANCE METRICS – November 2019

**TABLE I - TREATMENT/PROCESS METRICS**

Metric	Definition	Measurement	Range/Target/Goal
<b>1) Wastewater Treated</b>	Volume of wastewater influent treated and disposed, in million gallons (Mg)	274.2 Mg	165 – 820 Mg
<b>2) Biosolids Reuse</b>	Alternate Daily Cover (ADC) at the Redwood Landfill, in wet tons (wt) Fertilizer and soil amendment at land application sites, in wet tons (wt) Bio-Fertilizer production at the Lystek facility, in wet tons (wt)	385.0 wt 0 wt 157.5 wt	360 – 665 wt
<b>3) Conventional Pollutant Removal</b>	Removal of the conventional NPDES pollutants - Total Suspended Solids (TSS) and Biological Oxygen Demand (BOD) a. tons of TSS removed; % TSS removal b. tons of organics removed (BOD); % BOD removal	632.7 tons; 99.0% 416.0 tons ; 98.7%	> 85% > 85%
<b>4) Priority Pollutants Removal</b>	Diversion of priority NPDES metals from discharge to the S.F. Bay: a. % Mercury b. % Copper	99.2% 93.8%	88 – 99% 84 – 98%
<b>5) Biogas Production</b>	Biogas generated in our anaerobic digesters, in million cubic feet (Mft <sup>3</sup> ) Natural gas (methane) equivalent of the biogas, in million cubic feet (Mft <sup>3</sup> )	8.45 Mft <sup>3</sup> 5.41Mft <sup>3</sup>	6.0 to 9.5 Mft <sup>3</sup> 3.8 to 6.1 Mft <sup>3</sup>
<b>6) Power Produced</b>	Power produced from cogeneration of generated biogas and purchased natural gas - in kilowatt hours. Power produced from cogeneration of generated biogas and exported to grid Cogeneration system runtime on biogas , <i>in hours (hrs.)</i> ; % <i>time during month</i> Biogas value (natural gas cost equivalent).	445,683 kWh 58,843 kWh 612.8 hrs; 82.4% \$27,336	380 to 480,000 kWh TBD 558 hrs.; 75% \$7,000 to \$24,000
<b>7) Efficiency</b>	The cost to operate and maintain the treatment plant per million gallons of wastewater treated, in dollars per million gallons. Energy used, kilowatt hours, per million gallons treated.	\$1,312 /Mg 1,668 kWh/Mg	\$451-\$1,830/Mg (wet - dry) 670 - 2,400 kWh/Mg

**Table II – EMPLOYEE METRICS**

Metric	Definition	Measurement	Target/Goal
<b>1) Employee Training</b>	Hours of internal training – safety, web-based, project, vendor, etc. Hours of external training – employment law, technical, regulatory, etc.	Internal = 133 External = 143	variable
<b>2) Work Orders</b>	Preventative maintenance (PM) labor hours Planned corrective maintenance (CM) labor hours; % of CM+UCM hrs. Unplanned corrective maintenance (UCM) labor hours; % of CM+PM hrs. Ratio of PM to total corrective maintenance (CM + UCM);	474 hrs 287 hrs (80.0%) 73 hrs (9.6%) 1.3	300 – 500 hrs ≥ 70% total CM hrs ≤ 30% total hours ≥ 0.45
<b>3) Overtime Worked</b>	Monthly hours of OT worked; <i>Year to date hours of OT (YTD)</i> % of normal hours worked; % <i>Year to date (YTD)</i>	199 hrs; (1,504 hrs) 2.9%; (1.9%)	< 5%

## CMSA CY19 PERFORMANCE METRICS – November 2019

**Table III - ENVIRONMENTAL AND REGULATORY COMPLIANCE METRICS**

Metric	Definition	Measurement	Range/Target/Goal
<b>1) Permit Exceedances</b>	# of NPDES permit exceedances	0	0
<b>2) Regulatory Analyses</b>	# of analyses by the CMSA laboratory for NPDES, Stormwater, and Biosolids regulatory compliance monitoring and reporting	431	150-750
<b>3) Process Control Analyses</b>	# of analyses by the CMSA laboratory for process control monitoring	1,197	400-1,250
<b>4) Contract Laboratory Analyses</b>	# of analyses by contract laboratories for regulatory compliance reporting	81	0-50
<b>5) Quality Control Testing</b>	# of CMSA performed laboratory analyses for QA/QC purposes	391	100-300
<b>6) Water Quality Sample Analyses</b>	# of ammonia, coliform (total and fecal), enterococcus, and/or sulfide analyses performed for the CMSA member agencies (SSOs, etc.)	58	as-needed
<b>7) Pollution Prevention Inspections</b>	Inspections of industrial and commercial businesses in the Agency's pretreatment and pollution prevention programs and Novato Sanitary District's Mercury Reduction Program – 255 businesses regulated	18	variable
<b>8) FOG Program Inspections</b>	Inspections of food service establishments (FSEs) in the Almonte, TCSD, SD2, RVSD, SRSD, and LGVSD service areas – approx. 316 FSEs are regulated and 63 FSEs have waivers.	29	20 – 50
<b>9) Permits Issued/Renewed</b>	Permits issued for the pretreatment, pollution prevention, and FOG source control programs, and for groundwater discharge	2	variable

**Table IV- PUBLIC OUTREACH**

Metric	Definition	Measurement	Target/Goal
<b>1) Public Education Events</b>	Attendance at public education outreach events; # of booth visitors; <i>(YTD)</i>	45; <i>(4,183)</i>	3,000/year
<b>2) School Events</b>	Participation or sponsorship in school outreach events; attendees; <i>(YTD)</i>	996; <i>(3,634)</i>	variable
<b>3) Agency Tours</b>	Tours given to students and the public; # of people, <i>(YTD)</i>	3; <i>(236)</i>	variable
<b>4) Odor Notifications</b>	Number of odor alerts posted to the Agency website	2	1-10
<b>5) Odor Complaints</b>	Number of odor complaints received from the public	0	0



**BOARD MEMORANDUM**

December 4, 2019

To: CMSA Commissioners and Alternates

From: Jason Dow, General Manager

**Subject: CASA 2020 Winter Conference**

**Recommendation:** Authorize interested Board members to attend the 2020 CASA Winter Conference in Indian Wells.

**Summary:** The 2020 California Association of Sanitation Agencies' (CASA) Winter Conference is being held at the Renaissance Indian Wells during January 21-23, 2020. The CASA conference's preliminary program is attached and the California Sanitation Risk Management Association's (CSRMA) training seminar agenda will be a handout at the 12/10 Board meeting.

The Board's Reimbursement Policy for Travel/Expenses for Agency Officials (Policy #4) states that commissioners must receive prior Board approval for attendance at conferences, trainings, or meetings that require overnight travel. Staff recommends that the Board authorize its commissioners' attendance at the upcoming CASA Winter conference. If approved, commissioners can request per diem advance and travel/expense reimbursement forms from staff. Additionally, staff can assist with making conference and travel arrangements.

**Attachment:**

- CASA 2020 Winter Conference Preliminary Program





Attachment

2020 Winter Conference | January 21 – 23 | Renaissance Indian Wells

CASAweb.org

CASACleanWater

@CASA\_CleanWater

## Preliminary Program – 11/13/19

Subject to Change

### Tuesday, January 21

- 7:30 a.m. – 12:00 p.m. CSRMA Training Seminar
- 9:00 a.m. – 5:00 p.m. Registration
- 10:30 a.m. – 12:00 p.m. CASA Board of Directors Meeting
- 12:00 p.m. – 1:30 p.m. Associates Committee Meeting
- 12:00 p.m. – 1:30 p.m. Lunch on Your Own
- 1:30 p.m. – 4:00 p.m. **Roundtable Series (See Attached List)**
  - 1:30 p.m. – 2:30 p.m. Session 1 (Variety of Table Topics)
  - 2:30 p.m. – 3:00 p.m. Networking Break
  - 3:00 p.m. – 4:00 p.m. Session 2 (Repeat from Session 1)
- 4:15 p.m. – 5:30 p.m. Communications Committee Meeting
- 4:15 p.m. – 5:30 p.m. CSRMA Executive Board Meeting
- 5:30 p.m. – 6:30 p.m. Welcome Reception

### Wednesday, January 22

- 7:00 a.m. – 7:45 a.m. Indian Wells Morning Jog
- 7:30 a.m. – 4:30 p.m. Registration
- 7:30 a.m. – 9:00 a.m. Breakfast
- 7:45 a.m. – 8:45 a.m. CASA Education Foundation Board Meeting
- 8:00 a.m. – 9:15 a.m. CSRMA Board of Directors Meeting
- 9:00 a.m. – 11:45 a.m. **Morning Session**
- 9:00 a.m. – 9:45 a.m. **Keynote Speaker - Pour Into Others: Mentor and Advocate**  
Maggie Frye, Core Consulting

- 9:45 a.m. – 11:00 a.m. **Cutting Edge Technologies and Research Partnerships**  
 - Silicon Valley Biogas to Plastics  
 - Fuel Cell Advances in Biogas Treatment ([Vijay Srivatsan](#))  
 - [Rebecca Ryals](#)
- 11:15 a.m. – 11:45 a.m. **Climate Resiliency: What Does it Mean for Your Agency?**
- 12:00 p.m. – 1:30 p.m. **Luncheon**  
 - Join us for a tribute to outgoing Executive Director Bobbi Larson
- 2:00 p.m. – 4:00 p.m. **Afternoon Session**
- 2:00 – 3:00 **Future Workforce Development Panel**
- 3:00 – 4:00 **Tailoring Solutions to Medium and Small Agencies**  
 - Helping with Funding Decision Making ([Greg Swartz](#))  
 - Enhancing Technology for Small to Medium Agencies  
[Bob Holt](#)  
 - Assessing Triple Bottom Line at Your Agency (*Alexander Quinn*)
- 4:15 p.m. – 5:30 p.m. Bay Area Biosolids Coalition Meeting
- 4:00 p.m. – 5:30 p.m. Federal Legislative Committee Meeting
- 5:30 p.m. – 6:30 p.m. Associates Reception

#### **Thursday, January 23**

- 8:00 a.m. – 11:00 a.m. Registration
- 8:00 a.m. – 9:30 a.m. Breakfast
- 8:00 a.m. – 9:00 a.m. State Legislative Committee Meeting
- 9:15 a.m. – 11:00 a.m. **Closing Session**  
 President Bill Long, Presiding
- 9:15 a.m. – 9:45 a.m. **Federal and State Legislative Updates**  
 Eric Sapirstein and Jessica Gauger
- 9:45 a.m. – 10:15 a.m. [Michael Thompson](#), Sonoma County Water Agency
- 10:15 a.m. – 10:45 a.m. **National Partnerships and Priorities**  
[Adam Krantz \(NACWA\)](#)
- 10:45 a.m. – 11:00 a.m. President's Closing Remarks
- 11:00 a.m. – 3:00 p.m. Attorneys Committee Meeting

## Preliminary Roundtable List

- SB 1383 (Greg Kester)
- SSS WDR Update (Paul Causey)
- Toxicity Provisions/Biostimulatory Substances
- Flushable Wipes (Emily Barnett)
- PFAS (Jared Voskuhl)
- Exfiltration / Homeless Issues (Steve Jepsen)
- Indoor Water Conservation Standard
- Climate Resiliency Issues (Sarah Deslauriers)
- Impact of SWRCB Wetlands Policy and WOTUS rules (Nicole Granquist/Meghan Quinn)
- Securing SCADA
- Branding Your Agency (Mike McNutt)
- SFEI Microplastics Study and Next Steps
- Wastewater 101 (Vince DeLange)







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**BOARD MEMORANDUM**

December 4, 2019

To: CMSA Commissioners and Alternates

From: Chris Finton, Treatment Plant Manager

Approved: Jason Dow, General Manager

**Subject: Hypochlorite Tank Motorized Operated Valve Procurement**

**Recommendation:** Approve the purchase of five motorized operated valves for the hypochlorite bulk storage tank piping rehabilitation work.

**Discussion:** The upcoming hypochlorite storage tank piping rehabilitation work includes replacing five originally installed motorized operated valves (MOVs) onto the discharge piping of the five existing hypochlorite storage tanks. The existing actuators are 22 years old, their replacement parts are difficult to source, and they are no longer supported by their manufacturer. The new MOVs are comprised of Asahi PVC valves with Rotork motorized operators.

CMSA has standardized on the use of Rotork motorized actuators for gates and valves throughout the treatment facilities in order to minimize spare parts inventory, simplify maintenance work and training, and integrate their operation with the process control system for remote control. Approximately sixty Rotork motorized actuators have been installed to date, most recently for the Primary Gates Rehabilitation Project to replace ten hydraulically actuated gate operators for remote process control of influent into the primary treatment system.

**Fiscal Impact:** The procurement cost for the new five MOVs is \$67,904, including tax and delivery, and the Agency's FY 19 Capital Improvement Program has \$80,000 allocated for the Work.

**Attachments:**

1. Purchase Requisition for Five Rotork Valve Actuators
2. Cost Quotation from Foster Flow Control



Central Marin Sanitation Agency  
 1301 Andersen Drive  
 San Rafael, CA 94901  
 (415) 459-1455 (415) 459-3971 FAX

For Finance Use Only
Control # _____

**PURCHASE REQUISITION & ORDER**

Name	Foster Flow Control
Address	155 Oakpoint Court
	Pittsburg, California, 94565
Phone / Fax	925-709-8187 / 925-709-8186
ATTN	
Email	fosterflowcontrol@comcast.net

<b>Method of Payment (check one)</b>
<input type="checkbox"/> Pay with Agency credit card
<input type="checkbox"/> Use PO as invoice + issue Agency check
<input checked="" type="checkbox"/> Payment due upon receipt of invoice
New vendor approved by _____

GL #	Qty	UOM	Unit \$	Extension	Item Description
7450-002-00	5		\$12,322.00	\$61,610.00	Quotation No. 103019 Asahi - 3" Motorized Diaphragm Valves
				\$750.00	Shipping/Handling (estimate)
				\$5,544.90	Sales Tax (9.00% City of San Rafael)
				\$67,904.90	Total

**BUDGETED ITEM?**  Yes  No **BUDGET DESCRIPTION:** Electrical Equipment

**FUNDS AVAILABLE?**  Yes  No


(Check most recent financial report for availability of funds. If no, attach Budget Transfer Request)

**TRACKABLE ASSET?**  Yes  No **DISPOSITION FORM #:**

**TRACKABLE INV?**  Yes  No If Yes, Provide Packing Slip/Invoice to Finance

**COMMENTS:** Replacement Motorized Valves - Rotork motorized 3" Asahi Diaphragm Valves for the five bulk sodium hypochlorite storage tanks.

	Review	Date
<b>Requester:</b>	tdrady	10/16/19 5:43:18 AM
<b>Supervisor:</b>	pbruemmer	11/17/19 10:09:43 PM

	Review	Date
<b>Manager:</b>	cfinton 	11/18/19 1:02:00 AM
<b>Finance:</b>		

**AUTHORIZATION:** \_\_\_\_\_

**Date:** \_\_\_\_\_



**FOSTER FLOW CONTROL**

P.O. Box 5877

Concord, CA 94524-0877 Phone: (925) 709-8187 Fax: (925) 709-8186

Cell Phone # (925) 360-9997

E-MAIL: fosterflowcontrol@comcast.net

**QUOTATION****Customer**

Central Marin Sanitation Agency  
 1301 Andersen Drive  
 San Rafael, CA 94901  
 Attn: Paul Bruemmer, and Phone: (415) 459-1455  
 Kevin Lewis Fax:

Date: October 30, 2019  
 Quote No. 103019Asahi-3"motorizedDiaphValve  
 Terms: Net 30 Days  
 FOB Point: Shipping Point (Factory)  
 Ship Date: 10-12 Weeks (ARO)

Project Name: Proposed replacements for existing motorized 3" TVI Diaphragm Valves on Sodium Hypochlorite piping.				
Item	Qty.	Product/Service	Unit Price	TOTAL
1	5	<p>3" Asahi Valve Company Type 14 Diaphragm Valve that has a Body &amp; Bonnet that are made out of PVC, and it has ANSI Class 150 Flanged End Connections (10.38" laying length from flange face-to-flange face to match existing 3" TVI valve's dimension), and this valve has a PTFE (TEFLON) Diaphragm, and a Copper Alloy Stem. <b>(Per Asahi-America--The only "wetted parts" are the PVC Body &amp; Bonnet, and the PTFE Diaphragm. The rest of the parts will not come in contact with the Sodium Hypochlorite.)</b> This valve is equipped with a Rotork Model IQS12 Electric Actuator for On / Off (Open / Close) Service, at 57 Unit RPM. This actuator has an IP68 Watertight Enclosure, and it has an FA10 Output Flange, A Type Rotork Drive, and it is for use with a 120VAC/60Hz/1ph Power Supply, and it has CPT / FOLO, and Modbus with Single Highway. (4-20mA, and Open / Close Feedback).</p> <hr/> <p><b>NOTES:</b></p> <p>1) The shipping cost, and the Sales Tax are additional, and those costs will be added to the Foster Flow Control Invoice to the CMSA.</p> <p>2) See the attached Three (3)---Asahi-America "marked up" submittal sheets for this Type 14 Flanged Diaphragm Valve.</p>	12,322.00	\$61,610.00

The above is our interpretation of the materials for the specified inquiry/project according to said inquiry/project plans and specifications. No warranty is made regarding the quantity or types of materials. We reserve the right to modify our quotation if any changes are made to said plans and specifications. Shipping dates are approximate and are based on quantities available at time of quote. Unless otherwise stated, the Terms & Conditions of Foster Flow Control and the manufacturers listed herein will apply to all portions of this quotation.

QUOTATION TOTAL: \$61,610.00

Quoted by:

MIKE FOSTER






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**BOARD MEMORANDUM**

December 4, 2019

**To:** CMSA Commissioners and Alternates

**From:** Kenneth Spray, Administrative Services Manager  
Jason Dow, General Manager

**Subject:** **FY19 Comprehensive Annual Financial and Popular Annual Financial Reports**

**Recommendation:** Accept the FY19 Comprehensive Annual Financial and Popular Annual Financial Reports.

**Summary:** The Agency's FY19 Comprehensive Annual Financial Report (CAFR) and Popular Annual Financial Report (PAFR) are enclosed for your review and acceptance. Both reports are posted on the website at [www.cmsa.us/finance](http://www.cmsa.us/finance) and are available to all interested parties. Staff will submit the final CAFR and PAFR to the Government Finance Officers Association (GFOA) before December 31, 2019.

**Discussion:** The CAFR consists of three sections: introductory, financial, and statistical. The introductory section summarizes Agency programs, projects, and services, the financial section contains the audited financial statements that were accepted at the November Board meeting, and the statistical section presents financial and operational trend information presented on a multi-year basis. For transparency and to provide financial information to different users, the Agency also prepares a PAFR to fill this important need. The PAFR condenses contents of the CAFR into summarized, easy to read presentations that highlight key Agency and financial information.

The Agency participates in the GFOA Certificate of Achievement and Outstanding Achievement award programs for its CAFR and its PAFR, respectively. The Agency continues to meet the high standards of the programs and has received the Certificate of Achievement for Excellence in Financial Reporting award for the past seventeen consecutive years and the Outstanding Achievement award for the past nine consecutive years. Please provide any comments you may have on the reports and staff will incorporate them into the applicable document.

**Alignment with Strategic Plan:** Preparation of the CAFR and PAFR support Goal Two – Objective 2.3 in the Agency's FY20 Business Plan as shown below.

*Goal Two: CMSA will continually improve financial management practices to ensure transparency, financial sustainability, and sound fiscal practices.*

*Objective 2.3: Prepare transparent financial documents.*

*Actions c and d: Prepare the Agency's CAFR and PAFR, and submit them to the GFOA.*





**BOARD MEMORANDUM**

December 4, 2019

To: CMSA Commissioners and Alternates

From: Jason Dow, General Manager  
Ken Spray, Administrative Services Manager

**Subject: Agency Pension and OPEB Benefit Plans**

**Recommendation:** Receive and accept the Pension and OPEB Benefit Plans report and provide direction to staff, as appropriate

**Summary:** CMSA provides retirees with a California Public Employee Retirement System (CalPERS) pension benefit and a medical after retirement benefit, an Other Post Employment Benefit (OPEB). As of June 30, 2019, the pension unfunded actuarial liability (UAL) was \$11,287,197, and the Agency's UAL payment amount from the CalPERS UAL amortization schedule has been incorporated into our 5-year revenue plan and our 10-year financial forecast. For the OPEB, the UAL was \$1,747,166 at the end of the fiscal year, and the Agency has \$2,831,381 in a retiree medical trust fund. The Board adopted OPEB funding plan shows that in FY24 the trust will have enough funds to begin paying the Agency's retiree medical payments.

**Discussion:** In September 2019, the Marin County Council of Mayors and Councilmembers released a report entitled "Marin County Local Government Reform of Pensions and Other Post-Employment Benefits." The report provides the pension and OPEB investment plans and liabilities for Marin County's eleven cities and towns, and its key finding is that they have in aggregate \$300M of pension liability and \$102M in OPEB liability between the CalPERS and the Marin County Employees' Retirement Association (MCERA) plans. These liabilities have grown due to the 2008 financial crisis that had significant impact on assets held within the plans leaving much larger unfunded liabilities for public agencies to address. Recommendations of the report are (1) to develop a long-range financial plan, (2) to be transparent about benefit costs, and (3) to make benefit obligations more sustainable. The report does not have any pension and OPEB information for special districts or joint powers authorities. After the report was published in the Marin Independent Journal newspaper, Chair DiGiovanni suggested that staff prepare a summary of the CMSA pension and OPEB programs, and present it to the Board at a future meeting.

CMSA participates in CalPERS for employee pension benefits, and provides OPEB beyond the

minimum state requirement in the Public Employer Medical Care and Hospital Act (PEMCHA). A summary of our pension and OPEB programs is presented below.

### CalPERS Pension

CMSA provides a 2.7% at 55 pension benefit for CalPERS Classic employees, and a 2.0% at 62 benefit for PEPRA employees. Classic members are defined as those who were in a CalPERS or a reciprocal pension program prior to January 1, 2013, while PEPRA members are those who were hired after January 1, 2013. CMSA currently has 47 active employees that includes three new industrial utility laborers, and has 49 retirees as of the most recent actuarial valuation date of June 30, 2017. CMSA's unfunded liability (UAL) as of June 30, 2017 was \$10,776,392, and the 27-year amortization schedule provided by CalPERS is attached. For the duration of the Agency's 10-year financial forecast, the annual UAL payment increases from approximately \$725K to \$1.1M. These annual payments, although high, fit within our financial projections. The Board approved the current five-year revenue plan in the spring of 2018 to commence with the beginning of the FY19. In those plan discussions, it was a recommendation of the Finance Committee, later approved by the Board, to follow the pay-as-you-go method for annual UAL payments and not use a prefunding mechanism whose additional costs would add requirements beyond the desired increases in the Revenue Plan. Moving forward, future CalPERS pension payments will gradually decrease with time due to increasing numbers of PEPRA employees. Active employees consist of 27 Classic members and 20 PEPRA members. The PEPRA employer rate of 6.985% is approximately 6.2% less than the Classic employer rate of 13.182%.

### OPEB – Medical After Retirement Benefit

Historically, CMSA provided all retirees a medical after retirement benefit equal to the CalPERS Kaiser single party rate in the S.F. Bay Area region. During labor negotiations in 2010, the Agency successfully negotiated and initiated two significant OPEB cost containment measures. First, employees hired after July 1, 2010 receive a defined contribution of 1.5% of their annual compensation for eligible retiree medical expenses, called a MARA (Medical After Retirement Account), instead of the defined lifetime Kaiser medical benefit. Second, the Board authorized establishment of a CalPERS retiree medical trust fund, called the California Employers Retirement Benefit Trust (CERBT). Since 2010, the Agency has been funding the CERBT at the GASB 45 annual required contribution (ARC) level, and beginning in July 2018 funding has been at the GASB 75 actuarial determined contribution (ADC) level.

As of November 13, 2019, that CERBT fund has \$2,831,381 in assets. With that amount, CMSA's future retiree medical benefit expenses are approximately 59% funded based upon the OPEB Funding Plan updated as of 6/30/19.

In March 2019, staff proposed and the Board approved an OPEB Funding Plan (Plan) that will be updated annually, presented to the Board for review and discussion, and included in Agency budget documents. The Plan, attached, funds the CERBT for several years at the ADC level, and then begins to use the CERBT funds to pay for retiree medical benefits. The CERBT is currently paying just over 9% rate-of-return, so staff believes a 6.75% interest factor used in the table is conservative. The Plan shows that the CERBT balance will be approximately \$4M in five years.

Annual interest earnings at 6.75% for \$4M principal would be approximately \$269K. At that time the earnings from the CERBT will pay for all or a substantial portion of the OPEB benefit.

Funds in the CERBT trust are irrevocable, meaning they can only be used for retiree medical expenses. Monitoring plan funding to avoid overfunding must be performed by staff to balance future earnings with future costs. Where earnings exceed costs, one method to reduce earnings would be to select a more conservative investment strategy. In that situation, the objective would be for Plan costs to exceed earnings to reduce the principal basis of the CERBT. Another method is to determine if changes have occurred that would allow exceptions to the CERBT's irrevocable condition such as a one-time only withdrawal to match plan assets with the actuarially determined benefit obligation.

**Conclusion:** Careful analysis and attention has been paid to the Agency's pension and OPEB obligations. We agree with the recommendations of the Marin County Council of Mayors and Councilmembers. In that connection, the Agency utilizes long-range financial planning reflected in its bi-annual budget, is transparent about benefit costs through posting charts on its website to interested stakeholders, and makes its benefit obligations more sustainable through proper planning and previously negotiated reductions.

**Attachments:**

1. CalPERS Amortization Schedule and Alternatives as of 6/30/17 Valuation
2. OPEB Funding Plan Worksheet Updated as of 6/30/19



# Attachment 1

CALPERS ACTUARIAL VALUATION - June 30, 2017  
 Miscellaneous Plan of the Central Marin Sanitation Agency  
 CalPERS ID: 4950165881

## Amortization Schedule and Alternatives

Date	<u>Current Amortization Schedule</u>		<u>Alternate Schedules</u>			
	Balance	Payment	15 Year Amortization		10 Year Amortization	
			Balance	Payment	Balance	Payment
6/30/2019	11,287,197	749,391	11,287,197	1,026,355	11,287,197	1,399,830
6/30/2020	11,329,437	834,958	11,042,609	1,055,863	10,655,832	1,440,076
6/30/2021	11,286,126	930,749	10,749,730	1,086,219	9,937,015	1,481,478
6/30/2022	11,140,471	1,003,715	10,404,180	1,117,448	9,123,207	1,524,070
6/30/2023	10,908,692	1,030,619	10,001,237	1,149,574	8,206,288	1,567,887
6/30/2024	10,632,247	1,060,249	9,535,809	1,182,625	7,177,516	1,612,964
6/30/2025	10,305,075	1,090,731	9,002,411	1,216,625	6,027,475	1,659,337
6/30/2026	9,922,614	1,122,090	8,395,130	1,251,603	4,746,031	1,707,043
6/30/2027	9,479,950	1,154,350	7,707,597	1,287,587	3,322,278	1,756,120
6/30/2028	8,971,783	1,187,537	6,932,953	1,324,605	1,744,478	1,806,609
6/30/2029	8,392,405	1,221,679	6,063,810	1,362,687		
6/30/2030	7,735,665	1,256,802	5,092,216	1,401,864		
6/30/2031	6,994,936	1,292,935	4,009,609	1,442,168		
6/30/2032	6,163,085	1,274,951	2,806,774	1,483,630		
6/30/2033	5,289,550	1,254,863	1,473,794	1,526,285		
6/30/2034	4,373,486	1,210,534				
6/30/2035	3,436,916	1,137,451				
6/30/2036	2,508,130	485,181				
6/30/2037	2,187,509	448,506				
6/30/2038	1,881,623	409,321				
6/30/2039	1,594,141	392,901				
6/30/2040	1,302,823	404,197				
6/30/2041	978,685	320,868				
6/30/2042	717,343	316,388				
6/30/2043	441,694	261,257				
6/30/2044	203,155	142,200				
6/30/2045	70,619	53,141				
6/30/2046	20,705	21,443				
6/30/2047						
6/30/2048						
<b>Totals</b>		<b>22,069,007</b>		<b>18,915,137</b>		<b>15,955,413</b>
<b>Interest Paid</b>		<b>10,781,810</b>		<b>7,627,940</b>		<b>4,668,217</b>
<b>Estimated Savings</b>				<b>3,153,871</b>		<b>6,113,595</b>

\* This schedule does not reflect the impact of adopted discount rate changes that will become effective beyond June 30, 2017. For Projected Employer Contributions, please see page 5.



## Attachment 2

CENTRAL MARIN SANITATION AGENCY  
OPEB FUNDING PLAN WORKSHEET  
Updated as of 6/30/19

Annual Status as	Fiscal Year	Balance @ BOY	Net ADC Contribution	Subtotal	Interest @ 6.75%	Est Retiree Medical Cost	Balance @ EOY	Est Retiree Medical Cost Growth @ 4.0%
Estimated	2019-20	\$ 2,715,805	\$ 43,000	\$ 2,758,805	\$ 186,219	\$ -	\$ 2,945,024	210,997
Estimated	2020-21	2,945,024	43,000	2,988,024	201,692	-	3,189,716	219,437
Estimated	2021-22	3,189,716	43,000	3,232,716	218,208	-	3,450,924	228,214
Estimated	2022-23	3,450,924	43,000	3,493,924	235,840	-	3,729,764	237,343
Estimated	2023-24	3,729,764	43,000	3,772,764	254,662	-	4,027,426	246,837
Estimated	2024-25	4,027,426		4,027,426	271,851	256,710	4,042,567	256,710
Estimated	2025-26	4,042,567		4,042,567	272,873	266,979	4,048,462	266,979
Estimated	2026-27	4,048,462		4,048,462	273,271	277,658	4,044,075	277,658
Estimated	2027-28	4,044,075		4,044,075	272,975	288,764	4,028,286	288,764
Estimated	2028-29	4,028,286		4,028,286	271,909	300,315	3,999,881	300,315
Estimated	2029-30	3,999,881		3,999,881	269,992	312,327	3,957,546	312,327
Estimated	2030-31	3,957,546		3,957,546	267,134	324,820	3,899,860	324,820
Estimated	2031-32	3,899,860		3,899,860	263,241	337,813	3,825,288	337,813
Estimated	2032-33	3,825,288		3,825,288	258,207	351,326	3,732,169	351,326
Estimated	2033-34	3,732,169		3,732,169	251,921	365,379	3,618,712	365,379
Estimated	2034-35	3,618,712		3,618,712	244,263	379,994	3,482,981	379,994
Estimated	2035-36	3,482,981		3,482,981	235,101	395,193	3,322,889	395,193
Estimated	2036-37	3,322,889		3,322,889	224,295	411,001	3,136,183	411,001
Estimated	2037-38	3,136,183		3,136,183	211,692	427,441	2,920,434	427,441
Estimated	2038-39	2,920,434		2,920,434	197,129	444,539	2,673,025	444,539

Note 1: The obligation for tier 1 OPEB benefits will fully roll off in approximately 20 years leaving an ongoing obligation for tier 2 benefits only. Future amounts for this schedule are estimated while actual amounts are entered as of the close of each year.

Note 2: Existing retirees rates drop approximately 60% at age 65

Note 3: New retirees pay full single-person premium for 10 yrs from age 55 to age 65

Note 4: Per actuary, benefits will tail off in 20 years

Note 5: CMSA has approximately \$2.7M OPEB funding as of 6/30/19 in the PERS CERBT account. The total OPEB obligation is approximately \$4.6M as of the 6/30/19 actuarial report. Assuming a \$43K annual funding payment for 5 years and a 6.75% rate of return, CMSA will fund the plan to approximately \$4M in five years and then begin making payments from the plan through year 20 that will leave a balance estimated at \$2.7M to bring the balance down to its tier 2 long run obligation.








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**BOARD MEMORANDUM**

December 4, 2019

**To:** CMSA Commissioners and Alternates

**From:** Jason Dow, General Manager

**Subject:** **Summary of Impacts to Agency Operations During the October 2019 Public Safety Power Shutoffs**

**Recommendation:** Receive and discuss the staff report, and provide direction to staff, as appropriate.

**Summary:** At the November Board meeting, during the General Manager/Commissioner Oral Report agenda item, I informed the Board that the recent multi-day PG&E Public Safety Power Shutdown (PSPS) did not impact the CMSA treatment facilities and only had minor impacts on other aspects of the Agency business and operations.

Commissioner Bushey informed the Board that during the PSPS the City of San Rafael allowed the public to utilize its electric vehicle charging facilities and provided electronic device charging stations at and around City Hall. She asked if CMSA could provide similar assistance to the public during a future PSPS, since the Agency has an emergency generator powering its facilities and buildings. In response, I said the December 10 Board meeting agenda will include a summary of the PSPS impacts on Agency operations and an opportunity for the Board to discuss the possibility of CMSA assisting the public during a PSPS.

**Discussion:** PG&E implemented a PSPS for several North Bay counties between October 26 and 29 as a result of the Kincade Fire near Windsor, and the forecast for dry weather with high winds. Presented below is a summary of the PSPS impacts to Agency business and operations.

CMSA Staff

Six Agency staff members were displaced during the PSPS and there was a mandatory evacuation of approximately 200,000 persons in Sonoma County. Two CMSA employees were displaced twice as the evacuation zone expanded, and one employee and his family from Windsor had to relocate to the closest hotel they could find, which was in San Bruno. Of the Agency's 47 full time employees, 34 live in the North Bay, 10 live in the East Bay, and 3 live in the South Bay. Due to the employee evacuations, several couldn't work, resulting in approximately 14 hours of overtime to provide minimum after hours staffing.

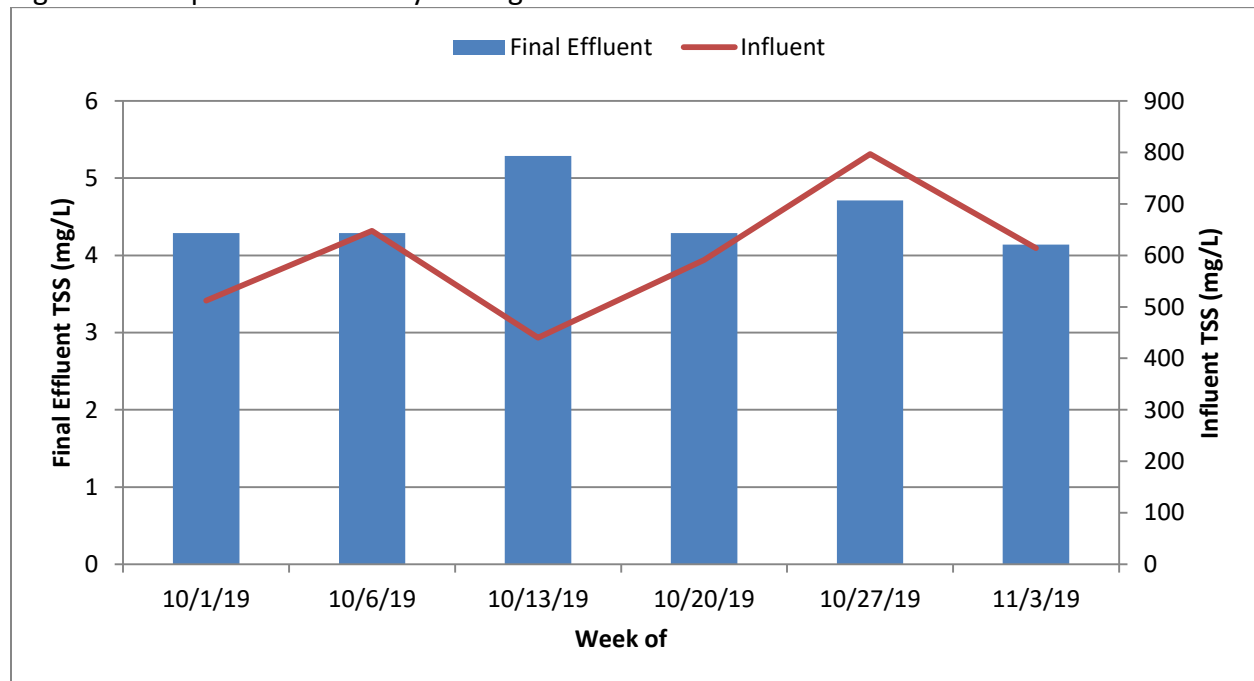
### CMSA Facility Operations and Flows

The Agency successfully operated without utility power for 47.5 hours, utilizing its emergency diesel generator to produce facility power during the entire duration. CMSA has a combined 11,000 gallons of diesel fuel storage on-site in two separate storage tanks, and the emergency generator under full load uses approximately 1,000 gallons of fuel per day.

Collection system flows into the Agency from JPA members RVSD and SRSD remained relatively normal as there were no announced evacuations in central Marin. However, erratic and decreased influent flows were encountered during this period. Flows decreased by approximately 14 percent from a daily average of 8.43 MG to 7.38 MG. The erratic flows were a function of collection system crews moving portable generators between pump and lift stations without onsite standby power to keep up with wastewater flows between these stations. To address the influent surges into the facility, CMSA staff converted offline primary clarifiers into spill basins to reduce flow spikes throughout the downstream portions of the treatment facility.

The only effects noted within treatment processes were elevated influent suspended solids concentrations. Influent weekly suspended solids concentrations increased from approximately 560 mg/L to approximately 800 mg/L, an almost 43 percent increase (see Figure 1 below). Final effluent suspended solids concentrations were not impacted during this period indicating successful treatment facility performance in spite of the elevated influent concentrations. These noted influent suspended solids concentrations are thought to be directly related to the erratic influent flows, and the associated higher than normal grit loadings to the facilities.

Figure 1: Comparison of Weekly Average Total Solids Concentrations



### Pump Station Operations

CMSA maintains pump and lift stations for Sanitary District No. 2, the main San Quentin State Prison pump station, and a small collection system for the County of Marin's San Quentin Village Sewer Maintenance District. During the PSPS, four Agency technicians rotated around the clock, 150 hours total, to ensure stable and reliable pump station operations and to continuously keep standby generator fuel tanks topped off. SD2's 19 pump stations spent between 44 and 69 hours without utility power. Of these 19 pump stations, 11 stations have dedicated standby power, four have dedicated portable power generators, and four stations required staff to tow a 38 kilowatt generator from station to station to pump down the wet wells as needed. Although San Quentin's pump station has a dedicated standby generator, it operated exclusively on power provided by the prison's main standby power generators. The San Quentin Village pump station also has a dedicated standby generator which operated the District's lone lift station without incident.

### Financial

Fortunately, at this time there does not appear to be any significant financial impact to the Agency as a result of the PSPS. For the duration of the power shutdown, power was provided by the emergency generator requiring the use of 1,990 gallons of diesel fuel at a cost of \$6,527.

### Lessons Learned

- 1) Cell Phone Service – The Agency truly became an island during this 47.5 hour event with approximately 50 percent of the cell towers in Marin County being out of service. With a majority of households relying on voice-over-internet protocol (VOIP) services, this further complicated communications, especially with evacuated North Bay staff members.
- 2) Radio Telemetry – CMSA realigned pump station radio telemetry signaling so that repeater stations that did not have dedicated standby power were reconfigured and/or signaling was moved to stations with standby power to bolster communication between the stations and CMSA. This allowed our emergency staff to continue to monitor and communicate across the same service area.
- 3) Fuel Supply Availability – The North Bay evacuation significantly impacted fuel supplies from Santa Rosa to Sausalito. The power outage prevented in-ground fuel supplies at gas stations from being utilized at all, and local fuel distribution companies could not keep up with requests for resupply as it was impossible to find remote suppliers willing to drive their fuel trucks towards the fires.
- 4) Staff Identification – In impacted areas or quarantined zones, we learned that public safety workers would not let other public employees enter the areas without proper identification. In the future all Agency employees will be issued proper CMSA employee identification cards.





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**BOARD MEMORANDUM**

December 4, 2019

**To:** CMSA Commissioners and Alternates

**From:** Board Finance Committee – Commissioners DiGiovanni and Boorstein, and Alternate Commissioner Gaffney

**Subject:** **Nationwide 401(a) Deferred Compensation Plan**

**Recommendation:** Adopt Resolution #340 to join the Nationwide 401(a) retirement plan, accept the Finance Committee’s deferred compensation plan recommendations, and provide comments or direction to the Committee and/or General Manager, as appropriate.

**Summary:** On the November Board meeting agenda, staff proposed the Agency participate in two new deferred compensation plans to address specific employee requests. At the meeting, Vice-Chair Boorstein pulled the item from the agenda and informed the Board that its Finance Committee will review the proposal and present a recommendation at a future meeting. The Committee met on December 3, discussed the Agency’s current deferred compensation plans, the two proposed plans, and have the following recommendations for the Board’s consideration:

1. Continue to sponsor the Nationwide and ICMA 457 deferred compensation plans.
2. Do not participate in the proposed CalPERS 457 deferred compensation plan.
3. Participate in the proposed Nationwide 401a deferred compensation plan.
4. If the Agency decides to sponsor an additional deferred compensation plan or change plan administrators, then staff and the Finance Committee will utilize an RFP-based plan selection process for a new plan administrator and plan features.

**Discussion:** CMSA has provided the Nationwide and ICMA 457 deferred compensation programs for over 25 years, and currently 21 employees participate in those programs. At the December 3 meeting, the Committee reviewed the investment options and fee structures for the Nationwide and the proposed CalPERS programs, and found that the Nationwide program offers a broad range of investment funds with varying management fees, while the CalPERS program had fewer investment options with most being CalPERS funds. The Committee did not support sponsoring a program administrator that primarily offers its own funds, and recommends that if the Agency decides to offer additional deferred compensation programs and features in the future, it would use a due diligent process to evaluate fund administrators and their investment options using specific selection criteria. The Committee believes

participating in the Nationwide 401(a) plan is appropriate as it is with an existing program provider and has a broad range of investments. For the Nationwide and ICMA programs, all fees are paid by the participating employee and there is no direct expense to the Agency.

457 deferred compensation plans have a maximum annual contribution limit, currently set by the IRS at \$19,000 for 2019 and will increase to \$19,500 for 2020. The 401(a) is a special type of plan that allows contributions up to \$56,000 per year in excess of the 457 maximum limit, for a total deferral of \$75,000 per year. Contributions to the plan are on a percentage basis of base wages, with the same percentage applying to all plan participants. Once enrolled, contributions to the plan are irrevocable just as the percentage withholding is not changeable except by plan amendment. The 401(a) plan is not readily open to all employees but rather requires a plan amendment to accept new enrollees. Several employees have interest in this plan. The 401(a) uses the Nationwide suite of funds for investment options. Participants can contribute to the standard Nationwide lineup of funds for passive investing, can opt for a self-directed brokerage account, or can opt for managed account services. Nationwide offers extensive customer service by telephone, website, or interactive voice response.

If the Board approves the Committee recommendations and adopts Resolution No.340, the next steps to implement the 401(a) plan are:

1. Execute the plan agreement that includes a tentative contribution percentage
2. Meet with prospective new plan participants to reach agreement on the contribution percentage
3. Notify Nationwide of the final contribution percentage
4. Enroll new plan participants
5. Set up the contribution amounts in payroll
6. Begin remitting contributions to Nationwide
7. Plan participants create their Nationwide online account
8. Plan participants discuss investment strategies with online advisors
9. Plan participants make investment selections
10. Plan participants receive monthly or quarterly statements

**Attachments:**

- 1) Resolution No. 340 – Approving Adoption of Nationwide Financial Services, Inc. 401(a) Plan
- 2) November 7, 2019 New Deferred Compensation Plans report

*Note: The above resolution state that the plan documents are attached, however due to their length, the documents are available at the Agency office for review by the Board and the public.*



CMSA Resolution No. 340

**RESOLUTION OF CENTRAL MARIN SANITATION AGENCY  
APPROVING ADOPTION OF  
NATIONWIDE FINANCIAL SERVICES, INC.  
GOVERNMENT VOLUME SUBMITTER 401(a) PLAN**

*WHEREAS*, Central Marin Sanitation Agency (CMSA) desires to establish an additional deferred compensation plan for the benefit of its employees; and

*WHEREAS*, CMSA believes that the Nationwide Financial Services, Inc. Government Volume Submitter 401(a) plan and the investment options available thereunder will provide valuable benefits to its employees;

*NOW, THEREFORE, BE IT RESOLVED* that that the form of Plan and Trust effective January 1, 2020, presented at this meeting is hereby approved and adopted and that the General Manager is hereby authorized and directed to execute and deliver to the Administrator of the Plan one or more counterparts of the Plan.

The undersigned further certifies that attached hereto are true copies of Central Marin Sanitation Agency 401(a) Plan, and the Summary of Plan Provisions, which are hereby approved and adopted.

*PASSED AND ADOPTED as a resolution at the meeting of the Central Marin Sanitation Agency Commissioners, County of Marin, State of California, on December 10, 2019, by the following vote.*

AYES:

NAYS:

ABSTAIN:

ABSENT:

\_\_\_\_\_  
Dean DiGiovanni, Chair

ATTEST:

By \_\_\_\_\_  
Eli Beckman, Commission Secretary







**BOARD MEMORANDUM**

November 7, 2019

To: CMSA Commissioners and Alternates

From: Kenneth Spray, Administrative Services Manager

Approved: Jason Dow, General Manager

**Subject: New Deferred Compensation Plans**

**Recommendation:** Adopt the Resolutions to join the CalPERS Supplemental Income 457 Plan and the Nationwide 401(a) retirement plan, and provide comments or direction to the General Manager, as appropriate.

**Summary:** In response to employee interest in expanding the Agency's existing deferred compensation plans, staff has identified a CalPERS 457 plan and a Nationwide 401(a) plan as viable investment options for staff. Expanding these deferred compensation alternatives is a FY20 Business Plan initiative, and participating in both carries no cost to the Agency and would benefit employee participants.

**Discussion:** During the market compensation labor negotiations completed in spring 2019, both represented and unrepresented employee groups requested to enhance the Agency's deferred compensation plans. The initiative to add viable plans was memorialized in Goal 5, Objective 5.2 d of the FY20 Business Plan. Goal 5 of the Plan is to "...attract and retain high quality employees by providing a work environment that motivates staff, fosters professional development, values diversity, and promotes a culture of safety." There are no employer fees of the plans for either enrollment or ongoing participation, and the plans offer increased benefits to participants. The Agency currently has two 457 plans available with ICMA and Nationwide. The proposed CalPERS plan would be the third 457 plan available, and administrative staff anticipates employee participation will decrease over time due to its higher management fees. A number of employees have expressed interest in transferring from ICMA to CalPERS or Nationwide.

Offerings for the CalPERS plan include the CalPERS suite of funds with many target-retirement-date-funds available. Fees vary per fund and are paid from employee accounts on a percentage or per \$1,000 basis. CalPERS also offers a self-managed account option, a ROTH option, and a loan provision. The ROTH option provides the opportunity to make contributions on an after-tax basis with no tax on the growth, and plan distributions are not taxed. The maximum annual

contribution for 457 with or without ROTH currently is \$19,000, and this amount usually increases each calendar year. The CalPERS 457 plan will be available to all employees, and CalPERS offers extensive customer service and online account access.

The 401(a) plan is not readily open to all employees but rather requires a plan amendment to accept new enrollees. Contributions to the plan are on a percentage basis of base wages, currently set at 5%, with the same percentage applying to all plan participants. Once enrolled, contributions to the plan are irrevocable just as the percentage withholding is not changeable except by plan amendment. The 401(a) is a special type of plan that allows contributions in excess of the 457 maximum limit of \$19,000. The 401(a) allows an additional \$56,000 for a total deferral of \$75,000 per year. This plan may not be for everyone, but is for those employees who want to defer more than the 457 limit allows and are willing to accept the rules of the plan. Several employees have interest in this plan. The 401(a) uses the Nationwide suite of funds for investment options. Just as with CalPERS, all plan fees are the responsibility of the employee and are paid directly from the employee's account. Participants can contribute to the standard lineup of funds for passive investing, can opt for a self-directed brokerage account, or can opt for managed account services. Nationwide offers extensive customer service by telephone, website, or interactive voice response.

The plan year for the CalPERS plan and the Nationwide 401(a) plan is on a calendar year basis, and if participation is approved by the Board both will begin January 1, 2020. Per the enrollment materials, plan setup is relatively quick for both plans once the completed documents are submitted. The CalPERS 457 plan and the Nationwide 401(a) plan each require a Board Resolution to adopt that are attached. Once adopted, the General Manager will be the administrator of the plans who may delegate managing the plans to a designee.

**Attachments:**

- 1) Resolution No. 340 – Approving Adoption of CalPERS Supplemental Income 457 Plan
- 2) Resolution No. 341 – Approving Adoption of Nationwide Financial Services, Inc. 401(a) Plan

*Note: The above resolutions state that the plan documents are attached, however due to their length, the documents are available at the Agency office for review by the Board and the public.*



**BOARD MEMORANDUM**

December 4, 2019

To: CMSA Commissioners and Alternates  
From: Kate Brouillet, Administrative Assistant  
Approved: Jason Dow, General Manager  
**Subject: December Informational Items**

**Recommendation:** Informational, provide comments or direction to the General Manager, as appropriate.

- A. Letter dated November 8, 2019 from Roberta Larson, California Association of Sanitation Agencies; Danielle Blacet, California Municipal Utilities Association; Dave Bolland, Association of California Water Agencies; Dave Williams, Bay Area Clean Water Agencies; Steve Jepsen, Southern California Alliance of Publicly Owned Treatment Works  
*Re: Comments on Strategic Plan to Protect California's Coast and Ocean 2020-2025*
- B. Letter dated November 18, 2019 to Ryan Atterbury, BAAQMD  
*Re: Annual Data Update and Clarifications for Plant #653-Central Marin Sanitation Agency*
- C. Letter dated November 26, 2019 to Anna Gallagher, California Regional Water Quality Control Board  
*Re: Monthly Self-Monitoring Report (SMR) – October 2019*





November 8, 2019

Sent via electronic-mail to: [COPCpublic@resources.ca.gov](mailto:COPCpublic@resources.ca.gov).

Wade Crowfoot, Secretary for Natural Resources  
 Chair, California Ocean Protection Council  
 California Natural Resources Agency 1416 Ninth Street, Suite 1311  
 Sacramento, CA 95814

**SUBJECT: Comments on Strategic Plan to Protect California's Coast and Ocean 2020-2025**

Dear Chair Crowfoot and Members of the Council,

On behalf of the water and wastewater community in California, the undersigned trade associations write to provide comments on the proposed Strategic Plan to Protect California's Coast and Ocean 2020-2025. Our coalition represents over 500 public water and wastewater systems in California. Together we provide essential public services in nearly every community in the state including the delivery of clean safe drinking water, treatment and distribution of drought resilient recycled water, and we protect the environment and public health through effective wastewater treatment. Our associations promote sustainability with a focus on advocacy, education and leadership.

Our coalition shares the OPC's commitment to ocean protection and increasing recycled water use in California. We worked with OPC staff to develop legislation guiding the OPC's development, adoption and implementation of a Statewide Microplastics Strategy. (SB 1263-Portantino, Chapter 609, Statutes of 2018), which is reflected in Goal 3.4.4. Additionally, we advocated for and supported AB 888 by Assemblymember Richard Bloom (Chapter 594, Statutes of 2015) which prohibited the use of plastic microbeads in personal care products like face wash, soap, and toothpaste after January 1, 2020.

We value our partnerships with OPC and were therefore surprised and dismayed to see that the proposed plan includes for the first time a significant new provision with potentially major impacts on water and wastewater agencies. The plan proposes the following goal:

1.2.3: Establish a target date for phasing out coastal sewage discharge into the ocean by 2022. Work with partners to achieve 80-100% coastal wastewater recycling by 2040.

Our comments below discuss our concerns with the goal as proposed and offer suggested revisions for the Council's consideration. We do not believe, however, that the few days allowed for comments (one of which is a national holiday) is adequate to obtain public and stakeholder input on this proposed goal. **We urge the Council to extend the opportunity for comment on the plan by at least 30 days and defer adoption to a future meeting.**

### **Proposed Goal 1.2.3 is at Best Premature**

The goal is included in the section of the plan dealing with ocean acidification and hypoxia. The potential impact from discharges of nitrates and remediation is a complicated and nuanced issue for which there is a significant amount of research currently underway and also for which many technological advances are being made relative to management options. In California's Bay Area and also in Southern California, large scale scientific studies and management plans for nutrients, including the need for nitrification/denitrification, are currently being employed in conjunction with California Regional Water Quality Control Boards. California's Regional Water Quality Control Boards currently have the authority to require wastewater agencies to comply with water quality requirements and can impose requirements for planning and implementation of processes to decrease nitrogen loadings in receiving waters. In fact, in the San Francisco Bay Area the Regional Water Board has already issued the 1st nutrient watershed permit in 2014 with the 2nd watershed permit planned for adoption in May 2019.

The other two goals in this section appropriately focus on science and strategy development. Goal 1.2.1 calls for scientific guidance to the State Water Resources Control Board to inform new standards that minimize biological and chemical impacts including ocean acidification, hypoxia, and harmful algal blooms and Goal 1.2.4 calls for implementation of California's Ocean Acidification Action Plan by 2023. In contrast, despite the acknowledgement that the science is still developing and that there are multiple factors affecting ocean acidification, Goal 1.2.3 leaps ahead to presume that elimination of permitted coastal wastewater discharges—all of which are already regulated under the Clean Water Act-- is the answer.

For this reason, we recommend that the Council delete Goal 1.2.3.

### **Any OPC Goal to Address Coastal Discharges Should be Consistent with the Recycled Water Policy**

The State Water Board's recently adopted Recycled Water Policy includes a goal to:

*“Reuse all dry weather direct discharges of treated wastewater to enclosed bays, estuaries and coastal lagoons, and ocean waters that can be viably put to a beneficial use. For the purpose of this goal, treated wastewater does not include discharges necessary to maintain beneficial uses and brine discharges from recycled water facilities or desalination facilities. (Emphasis added.)*

While the OPC's goal appears to be to reduce discharges for water quality reasons, the only way to reduce discharges (as discussed further below, elimination of wastewater discharges to the ocean is neither reasonable nor feasible) is to greatly increase water recycling. The water generated by millions of Californians will not simply disappear. In addition, it is not helpful to have two state agencies with key roles in ocean protection with different goals. If the Council decides to retain some form of a goal for coastal discharge reduction, we recommend it include the goal already adopted by the Water Board after extensive stakeholder comment and move the goal to Objective 1.1 dealing with climate resiliency.

## **Major Regulatory, Funding and Practical Realities Stand in the Way of an 80 to 100 Percent Reduction in Discharges**

We appreciate that the plan acknowledges the need to engage with the Water Board to develop a plan to achieve the proposed discharge elimination goal. There are numerous other public agencies and stakeholders who must also be at the table in any plan development process. As of today, the regulatory framework necessary for agencies to plan and implement projects to manage the massive volumes of water contemplated in Goal 1.2.3 does not exist. Existing beneficial reuse options are limited and could not be utilized to manage such a vast quantity of water. Instead, many agencies would need to implement large scale potable reuse projects. The State Water Board is charged with developing regulations for Direct Potable Reuse by 2023. Until that regulatory scheme has been developed it will be nearly impossible for agencies to plan for, let alone implement, projects to meet the goal. To put this in perspective, some of the most ambitious recycling projects underway in the state currently have 20 to 30 year project schedules, and when fully operational will still not meet the proposed 80 to 100 percent discharge reduction.

There are numerous technical realities in the wastewater treatment and management processes that must be considered. Major operational issues exist, including brine management, wet weather influent management, existing regulatory constraints relative to minimum flows, and other real and substantive conflicts with how wastewater agencies function in their communities. These technical issues are vast, far reaching, and vary based on the regional watershed and individual permitting levels.

### **The Proposed Discharge Elimination is in Conflict with Important Public Policies**

Some of California's most ambitious policy goals may be in conflict with Goal 1.2.3. For example, California is a leader on climate change mitigation and adaptation and has taken several steps in recent years to curb emissions and transition to a more sustainable future. Requiring all coastal areas to severely curtail discharges could adversely impact those efforts by increasing the emissions associated with advanced wastewater treatment and the associated energy demand required to move the high volumes of water over or across a variety of geographical settings.

California is simultaneously pursuing policies to make living more affordable for all residents of the state. Unfortunately, achievement of the goal to severely reduce discharges would require massive infrastructure development and rate increases for a significant portion of the state's population, including some of the most disadvantaged communities in California. The rate implications would likely have a trickle-down effect of impacting housing affordability as well, as connection fees and ongoing rates would necessarily increase living expenses and the cost of new development in impacted areas.

Finally, as California grapples with how to provide safe, affordable, clean drinking water for all, we need to be cautious of a singular focus on coastal discharges that would create additional strain on the limited resources available to fund clean water projects. To the extent that coastal agencies seeking to meet this goal would be expected to apply for and absorb the limited existing grant and loan opportunities available to them, this would inevitably draw funds away from numerous inland areas (such as the Central Valley) where there are so many urgent drinking water and clean water priorities in need of funding.

Thank you for your consideration of our comments. Our coalition values its constructive relationship with the OPC and respectfully requests that the Council allow additional time for public review and comment before proceeding with a goal to reduce or eliminate ocean discharges.

Sincerely,



Roberta Larson  
California Association of Sanitation Agencies



Danielle Blacet  
California Municipal Utilities Association



Dave Bolland  
Association of California Water Agencies



Dave Williams  
Bay Area Clean Water Agencies



Steve Jepsen  
Southern California Alliance of Publicly Owned Treatment Works

CC: Members, California Ocean Protection Council  
Mark Gold, Executive Director, California Ocean Protection Council





November 18, 2019

Ryan Atterbury, Senior Air Quality Engineer  
BAAQMD  
939 Ellis Street  
San Francisco, CA 94109

**Subject: Annual Data Update and Clarifications for Plant #653-Central Marin Sanitation Agency**

Dear Ryan,

I am writing to clarify the collected data in regards to selected sources of air pollution at Central Marin Sanitation Agency, plant #653. The provided consumption and throughput data was logged beginning November 1, 2018 through October 31, 2019.

- S#1: Natural Gas use was 47,322 therms during the 2019 permit cycle.  
Digester Gas use was 66,838 thousand cubic feet during the 2019 permit cycle.
- S#3&4 The Natural Gas consumption for each boiler was <1,000 therms during the 2019 permit cycle and was exclusively for pilot lighting purposes. The total amount of digester gas consumed in the boilers was 8,542 thousand cubic feet during the 2019 permit cycle. Source S#3's use was 4,271 thousand cubic feet, and S#4's use was 4,271 thousand cubic feet.
- S#5&6 Waste Gas Burners used 27,082 thousand cubic feet of digester gas during the 2019 permit cycle due to the facility's cogeneration system being offline for major maintenance. Waste gas burners are set-up for alternating use when digester gas must be burned off. Source S#5's use was 13,541 thousand cubic feet, and S#6's use was 13,541 thousand cubic feet.
- S#15 The emergency stand-by diesel generator used a total of 2,790 gallons of fuel and accumulated 52 hours of run time during the 2019 permit cycle. Approximately 88.2% of these run time hours were accumulated during the PG&E public safety power shutoffs in central Marin County.
- S#17-21 Source's 17 through 21 are currently classified by BAAQMD as "Emergency Stand-by Diesel Generators." These generators do not generate power for Agency use. They are coupled via direct drive to five 40 MGD centrifugal pumps used exclusively during significant wet weather flow conditions. Fuel consumption for the 2019 permit cycle is identified by source number on the attached data update form.

- S#140 Secondary Clarifiers are open (no covers) tanks and exhaust gas flow rates are not calculated.
- S#150 Disinfection Plant, should be renamed to "Chlorine Contact Tanks" which are open (no covers) tanks and exhaust gas flow rates are not calculated.
- S#160 Throughput for the two anaerobic digesters includes primary sludge, thickened waste activated sludge; pre-consumer foodwastes, and FOG.
- S#161 CMSA was issued a source number for the Organic Waste Receiving Facility (FOG/FW), Source #161 in 2015, and this source did not make its way into this year's data request update from BAAQMD.
- S#170 Throughput for the two anaerobic digesters includes primary sludge, thickened waste activated sludge, pre-consumer foodwastes, and FOG.

Explanation of Facility Throughput - Source S#100 recorded 4,803.2 million gallons of wastewater treated during the 2019 permit cycle. Source S#130 recorded 4,266.4 million gallons of secondary treated wastewater during the 2019 permit cycle, and the difference between S#100 and S#130 was due primarily to reclaiming recycled water for various uses. Source S#150 recorded 4,328.0 million gallons of a combination of secondary treated wastewater, S#130, and blended primary effluent which was disinfected and dechlorinated, and discharged into San Francisco Bay.

Should you have any questions, please do not hesitate to contact me Chris Finton at (415) 459-1455 X 101, or Operations Supervisor Jean St. Louis at (415) 459-1455 X 159.

Sincerely,



Chris Finton, Treatment Plant Manager



November 26, 2019

California Regional Water Quality Control Board  
San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

Attention: Anna Gallagher

Subject: **Monthly Self-Monitoring Report (SMR) – October 2019**

The October 2019 monthly self-monitoring report for the Central Marin Sanitation Agency (CMSA) treatment plant has been submitted using the eSMR /California Integrated Water Quality System (CIWQS). This SMR conforms to CMSA's NPDES Permit Order #R2-2018-003, Alternate Monitoring and Reporting Requirements Order #R2-2016-0008 and the Mercury and PCBs Order #R2-2017-0041. Additionally, effective July 1, 2019, Order #R2-2019-0017 removed CMSA influent nutrient monitoring requirements. The results provided in this report comply with these new requirements.

**Violations**

There are no reportable NPDES Permit violation(s) for this reporting period.

**Blending Events**

The CMSA treatment facility did not exceed the maximum secondary capacity of 30 MGD. No blending events occurred during this monitoring period.

**Data Validation**

All regulatory daily, weekly, and monthly quality control calibrations/checks conducted during the month of October met established quality assurance acceptance criteria, except those data results indicated within the attached Quality Assurance report.

If there are any questions please contact me at (415) 459-1455, extension 101. Quality assurance data are available for all test results cited in this report. Values reported are measured values and each are subject to analytical variability. CMSA reserves the right to question data in an enforcement proceeding.

I certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations (40 CFR 122.22(d)).



Loren C. Finton  
Treatment Plant Manager

