



**NOTICE OF REGULAR BI-MONTHLY MEETING  
BOARD OF DIRECTORS**

**MEETING DATE:** Tuesday, February 18, 2020  
**TIME:** 7:30 p.m.  
**LOCATIONS:** 1) MMWD Board Room, 220 Nellen Ave., Corte Madera, CA 94925  
 2) Hotel Chaco, 2000 Bellamah Ave., Albuquerque NM  
 (In lobby, on couch near picture with red circle, near wall magazine rack)  
 (Director Koehler)

**AGENDA**

ITEM	RECOMMENDATION	APPROX. START
<input type="checkbox"/> CALL TO ORDER		7:30 p.m.
<input type="checkbox"/> ADOPT AGENDA		7:31 p.m.
<input type="checkbox"/> PUBLIC EXPRESSION*		7:32 p.m.
<input type="checkbox"/> DIRECTORS' AND GENERAL MANAGER'S ANNOUNCEMENTS		7:35 p.m.
<input type="checkbox"/> CONSENT CALENDAR – ITEMS 1-2		7:40 p.m.
1. Minutes of the February 4, 2020 Meeting	<i>Approve</i>	
2. General Manager's Report for January 2020	<i>Approve</i>	
<input type="checkbox"/> REGULAR CALENDAR		
3. Resolution No. 8549 – Updates to the Tier 4 Rate Variance Criteria	<i>Approve</i>	7:50 p.m.
4. Review of PG&E's 2019 Public Safety Power Shutoff (PSPS) Events and MMWD's Response to Mitigate Impacts of the PSPS	<i>Discussion</i>	8:10 p.m.
5. Future Meeting Schedule and Agenda Items	<i>Discussion</i>	8:20 p.m.

**ADA NOTICE AND HEARING IMPAIRED PROVISIONS:** The board room is equipped with sound amplifying units for use by the hearing impaired. The units operate in conjunction with the room's sound system. You may request the personal sound amplifier from the Board Secretary for use during meetings.

In accordance with the Americans with Disabilities Act and California Law, it is the policy of the Marin Municipal Water District to offer its public programs, services, and meetings in a manner that is readily accessible to everyone, including those with disabilities. If you are disabled and require a copy of a public hearing notice, an agenda, and/or agenda packet in an appropriate alternative format, or if you require other accommodation, please contact Stephanie Eichner-Gross at (415) 945-1448, at least two days in

**MMWD BOARD OF DIRECTORS:** Larry Bragman, Jack Gibson, Cynthia Koehler, Armando Quintero, Larry Russell

\*Anyone wishing to speak on an item other than those listed on this agenda will be recognized at this time. We ask any person wishing to be heard to come to the podium to address the board and state your name and address for the public record. A 3-minute limit is customary; however the Board chair may adjust the actual time allotted to accommodate the number of speakers.

\*\*All matters listed on the consent calendar are considered to be routine and will be enacted by a single action of the board, unless specific items are removed from the consent calendar during adoption of the agenda for separate discussion and action.

advance of the meeting. Advance notification within this guideline will enable the District to make reasonable arrangements to ensure accessibility.

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**INFORMATION PACKETS ARE AVAILABLE FOR REVIEW AT THE CIVIC CENTER LIBRARY, CORTE MADERA LIBRARY, FAIRFAX LIBRARY, MILL VALLEY LIBRARY, MMWD OFFICE, AND MMWD WEBSITE (MARINWATER.ORG)**

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**FUTURE BOARD MEETINGS:**

Friday, February 21 Regular Meeting Operations Committee/Board of Directors (Operations), 9:30 a.m.	MMWD Board Room
Thursday, February 27 Regular Meeting Finance Committee/Board of Directors (Finance), 9:30 a.m.	MMWD Board Room
Tuesday, March 3 Regular Bi-Monthly Meeting Board of Directors, 7:30 p.m.	MMWD Board Room



**MARIN MUNICIPAL  
WATER DISTRICT**

**ITEM No. 1**  
**MEETING DATE:** February 18, 2020  
**MEETING:** Board of Directors

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**STAFF REPORT**

**SUBJECT:** Minutes of February 4, 2020 Board Meeting

**SUBMITTED BY:** Board Secretary

**RECOMMENDED ACTION:** Approve Minutes of the February 4, 2020 Board Meeting

**ATTACHMENTS**

1. Minutes of the February 4, 2020 Board Meeting

**THE BOARD OF DIRECTORS  
OF MARIN MUNICIPAL WATER DISTRICT**

Minutes of the Regular Bi-Monthly Meeting of the Board of Directors held on Tuesday, February 4, 2020 at 220 Nellen Avenue, Corte Madera, California.

Directors present: Larry Bragman, John C. Gibson, Cynthia Koehler, Armando Quintero, and Larry L. Russell (Note: Director Quintero participated by teleconference)

Directors absent: None

**CALL TO ORDER**

President Gibson called the meeting to order at 7:31 p.m.

**AGENDA**

On motion of Director Bragman, seconded by Director Russell, the Board adopted the agenda by the following roll call vote:

Ayes: Directors Bragman, Gibson, Koehler, Quintero and Russell  
Noes: None  
Absent: None  
Abstain: None

**PUBLIC EXPRESSION**

No one spoke during this time.

**DIRECTORS' AND GENERAL MANAGER'S ANNOUNCEMENTS**

President Gibson presented a plaque to Director Bragman in appreciation for his service as President of the Board of Directors for 2019.

**CONSENT CALENDAR (ITEMS 1 - 2)**

Director Bragman requested an amendment be made to the minutes of the January 21, 2020 Board of Directors’ Regular Bi-Monthly Meeting to include the comment he made concerning the forthcoming expiration of the Lagunitas Creek Management Plan.

ITEM 1 Minutes of the January 21, 2020 Board of Directors’ Regular Bi-Monthly Meeting

On motion of Director Koehler, seconded by Director Bragman, the Board approved Item 1 of the Consent Calendar, Minutes of the January 21, 2020 Regular Bi-Monthly Meeting as amended by the following roll call vote:

Ayes: Directors Bragman, Gibson, Koehler, Quintero and Russell  
Noes: None  
Absent: None  
Abstain: None

ITEM 2 Commendation to retiring employees:  
A. Rodger Holton, Resolution No. 8553  
B. Carl Gowan, Resolution No. 8554

On motion of Director Bragman, seconded by Director Koehler, the Board approved Item 2 of the Consent calendar (Resolution Nos. 8553 and 8554) by the following roll call vote:

Ayes: Directors Bragman, Gibson, Koehler, Quintero and Russell  
Noes: None  
Absent: None  
Abstain: None

**ITEM 3 PRESENT COMMENDATION TO CARL GOWAN**

Director Gibson read and presented Resolution No. 8554 commending Carl Gowan for eighteen years of service to the District.

Carl Gowan expressed his appreciation to the Board and staff.

**ITEM 4 MONTHLY WATER SUPPLY REPORT - DECEMBER 2019**

Michael Ban, Environmental & Engineering Services Division Manager, presented the informational staff report and slide presentation informing the Board on water production, rainfall and reservoir storage.

A brief question and answer period followed.

There was no public comment.

**ITEM 5            2020 BOARD COMMITTEE ASSIGNMENTS**

President Gibson presented the list of committee assignments and proposed the current assignment remain in place for 2020.

Mike Ban noted the name of the Compensation Committee was changed to Administrative Committee to address a broader array of administrative matters.

On motion of Director Koehler, seconded by Director Bragman, the Board approved 2020 Board Committee Assignments by the following roll call vote:

Ayes:            Directors Bragman, Gibson, Koehler, Quintero and Russell  
Noes:            None  
Absent:         None  
Abstain:        None

**ITEM 6            FUTURE MEETING SCHEDULE AND AGENDA ITEMS**

Mike Ban presented the staff report listing upcoming meetings.

**ADJOURNMENT**

There being no further business, the meeting of February 4, 2020, was adjourned at 7:58 p.m.

\_\_\_\_\_  
President, Board of Directors

ATTEST:

\_\_\_\_\_  
Secretary



**STAFF REPORT**

**SUBJECT:** General Manager's Report for January 2020

**SUBMITTED BY:** Ben Horenstein, General Manager

**RECOMMENDED ACTION:** Approve Report

**EXECUTIVE SUMMARY:**

**A. HIGHLIGHTS:**

- Completed installation of the pipeline in support of the Ross Reservoir Bypass Pipeline Replacement Project. This project will provide a larger bypass which is necessary to ensure the continued water supply to the Ross 360' pressure zone under either emergency failure of the reservoir as well as throughout the construction of a new storage tank at the Ross Reservoir site in the coming years. Over 20% of the District's customers receive water via this transmission system and this storage tank is considered critical to District operations.
- January rainfall at Lake Lagunitas was 3.98 inches compared to 5 year average of about 14 inches, and even though January was fairly dry, the District's reservoirs remain above average due to a relatively wet December.
- California Department of Fish and Wildlife awarded the district a \$300,000 grant to support restoration planning efforts along Lagunitas Creek.
- The California Conservation Corps North Bay was awarded a \$218,000 grant under Proposition 68 for activities in support of the Azalea Hill Trail Project.
- Pile burning operations are now underway on Ridgecrest and have been completed at Lake View. This annual activity is one management action undertaken for the Biodiversity, Fire and Fuels Integrated Plan for vegetation management.
- \$350,000 in grant funding has been awarded to MMWD under Proposition 84, Integrated Regional Water Management (IRWM) 2014 Drought Grant Program for installation of an additional round of AMI meters. This funding will provide for 860 additional AMI meters to be installed in San Rafael and Larkspur.

**B. SUMMARY:**

- AF = Acre Feet
- Mg/L = milligrams per liter
- MPN = most probable number
- MPY = mils per year
- MG = million gallons
- NTU = nephelometric turbidity units

**1. Water Production:**

Item	FY 2019/20	FY 2018/19
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	(million gallons)	(acre-feet)	(million gallons)	(acre-feet)
<b>Potable</b>				
Total production this FY	5,311	16,300	5,024	15,418
Monthly production,	467	1,433	474	1,455
Daily average	15.06	46.23	15.29	46.92
<b>Recycled<sup>1</sup></b>				
Total production this FY	32.83	100.75	107.34	329.41
Monthly production	0.00	0.00	0.00	0.00
Daily average	0.00	0.00	0.00	0.00
<b>Raw Water</b>				
Total production this FY	37.46	114.96	79.58	244.22
Monthly production	0.37	1.14	0.00	0.00
Daily average	0.01	0.04	0.00	0.00
<b>Imported Water</b>				
Total imported this FY	934	2,865	791	2,428
Monthly imported	141	433	65	199
<b>Reservoir Storage</b>				
Total storage, December	24,463	75,073	24,967	76,620
Storage change during January	1,701	5,220	6,223	19,097
<b>Stream Releases</b>				
Total releases this FY	2,037	6,250	2,521	7,737
Monthly releases	387	1,187	355	1,089

**2. Precipitation:**

	<u>FY 2019/20 (in.)</u>	<u>FY 2018/19 (in.)</u>
Alpine	22.70	27.85
Bon Tempe	20.48	25.37
Kent	21.28	24.65
Lagunitas *	27.65	28.03
Nicasio	15.61	20.42
Phoenix	27.74	27.15
Soulajule	17.40	20.42

\* Average to date = 30.14 inches

**3. Water Quality:**

<u>Laboratory:</u>	<u>FY 2019/20</u>	<u>FY 2018/19</u>
Water Quality Complaints:		
Month of Record	7	6
Fiscal Year to Date	229	89

<sup>1</sup> Recycled water was temporarily discontinued in February 2019 to accommodate construction of the Las Gallinas Valley Sanitary District's Secondary Treatment Plant Upgrade and Recycled Water Expansion Project. Production will resume upon completion of this project, which is anticipated to occur in late 2020.



Water Quality Information Phone Calls:

Month of Record	10	9
Fiscal Year to Date	96	36

The lab performed 1,857 analyses on lakes, treatment plants and distribution system samples.

Mild steel corrosion rates averaged 1.27(0.28 – 2.91) MPY. The AWWA has recommended an operating level of <5 MPY with a goal of <1 MPY.

Complaint Flushing: No system flushing was performed for the month of record.

Tank Survey Program: 20 water storage tank sanitary surveys were performed during the month. 7.94% of the planned survey program has been completed for calendar year 2020.

Disinfection Program: 505 feet of new pipeline was disinfected during the month. Performed chlorination’s on 7 water storage tanks to ensure compliance with bacteriological water quality regulations.

Tank Water Quality Monitoring Program: Performed 35 water quality-monitoring events on storage tanks for various water quality parameters this month to help ensure compliance with bacteriological water quality regulations.

**4. Water Treatment:**

<u>Treatment Results</u>	<u>San Geronimo</u>		<u>Bon Tempe</u>		<u>Ignacio</u>	
	Average	Monthly Goal	Average	Monthly Goal	Average	Monthly Goal
Turbidity (NTU)	0.08	≤ 0.10	0.07	≤ 0.10	0.06	≤ 0.10
Chlorine residual (mg/L)	2.52	2.50 *	2.62	2.50 *	2.49	2.50 *
Color (units)	0.8	≤ 15	0.4	≤ 15	0.1	≤ 15
pH (units)	7.8	7.8*	7.9	7.8*	8.0	8.1**

\* Set monthly by Water Quality Lab

\*\* pH to Ignacio is controlled by SCWA

**5. Capital Improvement**

a. Almonte Pipeline Replacement Project

Summary: This project involves the replacement of 6,120 feet of old, leak prone pipe ahead of County of Marin street restoration project

- Project Budget: \$1,248,360
- Monthly Activities: Contractor did trench restoration paving on Almonte Blvd. and Rosemount.

b. Ross Reservoir Bypass Pipeline Replacement Project

Summary: This project involves the replacement of 600 feet of undersized piping in coordination with future MMWD work at the Ross Reservoir site.

- Project Budget: \$441,050
- Monthly Activities: Contractor completed the pipeline and is working on punch list items.

c. Baltimore Ave Pipeline Replacement Project

Summary: This project involves the replacement of 2,630 feet of old, leak prone pipe in the City of Larkspur.

- Project Budget: \$589,141.70
- Monthly Activities: Contactor has finished all pavement restoration and finalizing punch list items.

d. Ignacio Spare Chemical Room Improvement Project

Summary: This project involves the demolition and removal of a spare chemical tank.

- Project Budget: \$94,800
- Monthly Activities: Project is complete.

e. San Geronimo Treatment Plant Septic System Repair Project

Summary: This project involves the repair and replacement of the intermittent sand filter for the existing septic system at the San Geronimo Treatment Plant.

- Project Budget: \$92,500
- Monthly Activities: The contract was awarded and is being routed for signature.

**6. Other**

<u>Pipeline Installation</u>	<u>FY2019/20</u>	<u>FY2018/19</u>
Pipe installed during January (feet)	20	177
Total pipe installed this fiscal year (feet)	15,247	16,994
Total miles of pipeline within the District	908*	908*

\* Reflects adjustment for abandoned pipelines

<u>Pipe Locates</u>	<u>FY2019/20</u>	<u>FY2018/19</u>
Month of January (feet)	44,333	39,745
Total this fiscal year (feet)	282,392	413,367

<u>Main Line Leaks Repaired:</u>	<u>FY2019/20</u>	<u>FY2018/19</u>
Month of January	8	12
Total this fiscal year	105	98

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<u>Services:</u>	<u>FY2019/20</u>	<u>FY2018/19</u>
Service upgrades during January	18	17
Total service upgrades this FY	104	115
Service connections installed during January	2	1
Total service connections installed this FY	10	30
Total active services as of Feb. 1, 2020	60,520	60,591

**7. Demand Management:**

	Jan-20	FY 19/20 TOTAL	FY 18/19 TOTAL	FY 17/18 TOTAL
<b>WATER-EFFICIENCY PROGRAMS</b>				
<b>Water-Use Site Surveys</b>				
<b>Conservation Assistance Program (CAP) Consultations</b>				
Residential properties resi 1-2 (single-family)	9	108	109	350
Residential properties resi 3-5 (multi-family units)	0	2	2	91
Non-residential properties resi 6-7 (commercial)	0	2	6	19
Dedicated irrigation accounts resi 8-10 (large landscape)	0	-	2	5
<b>Marin Master Gardeners' Marin-Friendly Garden Walks</b>				
Residential garden walks	4	75	122	134
<b>CYES Water/Energy Surveys</b>				
Residential surveys	0	86	238	258
<b>Public Outreach and Education, Customer Service</b>				
Public outreach events (number of people attending)	0	1,000	13,691	22,600
Public education events (number of participants)	0	-	500	5,000
Phone calls admin staff		1,283	1,835	2,733
<b>School Education</b>				
<b>School assemblies</b>				
Number of activities	2	13	17	19
Number of students reached	625	4,216	5,915	6,579
<b>Field trips</b>				
Number of activities	0	3	6	16
Number of students reached	0	66	130	489
<b>Classroom presentations</b>				
Number of activities	3	8	21	29
Number of students reached	118	239	554	855
<b>Other (e.g. booth events, school gardens)</b>				
Number of activities	0	-	1	2
Number of students reached	0	-	250	1,250
<b>Incentives</b>				
Number of HETs approved	26	325	850	576
Number of HECWs approved	12	34	61	75
Number of Organic Mulch approved	4	39	95	83
Number of Rain Barrels approved	0	2	8	7
Number of Pool Covers approved	0	3	18	13
Number of Hot Water Recirculating Systems approved	0	4	18	14
Number of Laundry-to-Landscape Systems approved	0	-	-	1
<b>Advanced Metering Infrastructure (AMI)</b>				
AMI leak letters sent to customers (>200 GPD)	90	708	896	-
<b>Graywater Compliance Form</b>				
Applications Received (as of Dec 2019)	5	15	-	
Systems installed	2	9	14	-
<b>ORDINANCES</b>				
<b>Water Waste Prevention</b>				
No. of properties reporting activity	3	99	148	159
<b>Landscape Plan Review</b>				
Plans submitted	14	58	113	92
Plans exempt	0	4	6	11
Plans completed	3	20	37	30
Plans in workflow (pass & fail)	22	93	173	139
<b>Tier 4 Exemption</b>				
Inspections that resulted in a pass	0	-	1	1

**8. Watershed Protection**

**Ranger responds to Fire**

In early January, a Ranger was first on-scene of a small vegetation fire on District lands near Ridgecrest Blvd. An illegal bonfire, likely from the previous day, was left burning and during the late afternoon flared up, burning a five foot by five foot area of forest duff. The Ranger built a line around the fire and assisted MCFD in extinguishing the fire.



**Multiple Search and Rescue Incidents**

During January District Rangers responded to multiple search and rescue incidents on the watershed. All the incidents occurred late in the day and involved visitors not familiar with the area. The visitors were also overly dependent on their smart phones and apps as navigation tools, which contributed to them getting lost and calling for help. These types of incidents seem to be increasing on the watershed.

<b>Incidents and Events</b>	<b>316</b>
Citations	101
Visitor Assists	89
Warnings	67
Dam Check	11
Vandalism	6
Medical Aid	5
Search and Rescue	5
Assist Watershed Maintenance	4
Complaint: Illegal Bike Use	4
Citizen Complaint: Off Leash Dogs	3
Misc Law Enforcement Calls	3
Assist Other Agency	2
Law Enforcemert Calls off Watershed	2
Preventative Search and Rescue	2
Suspicious Circumstance	2
Vehicle Lockin/Ranger Callout	2
Assist Other MMWD Work Group	1
Assist Outside Law Enforcement	1
Illegal Trail Work	1
Illegal Dumping	1
Smoke Check	1
Theft	1
Vegetation Fire	1
Vehicle Accident	1

<b>Citations</b>	<b>101</b>
Non-Payment of Parking Fees	77
Parking After Sunset	9
Parking with 6 ft of Center Line	8
Dog off Leash	3
Bike on Trail	2
No Parking	2

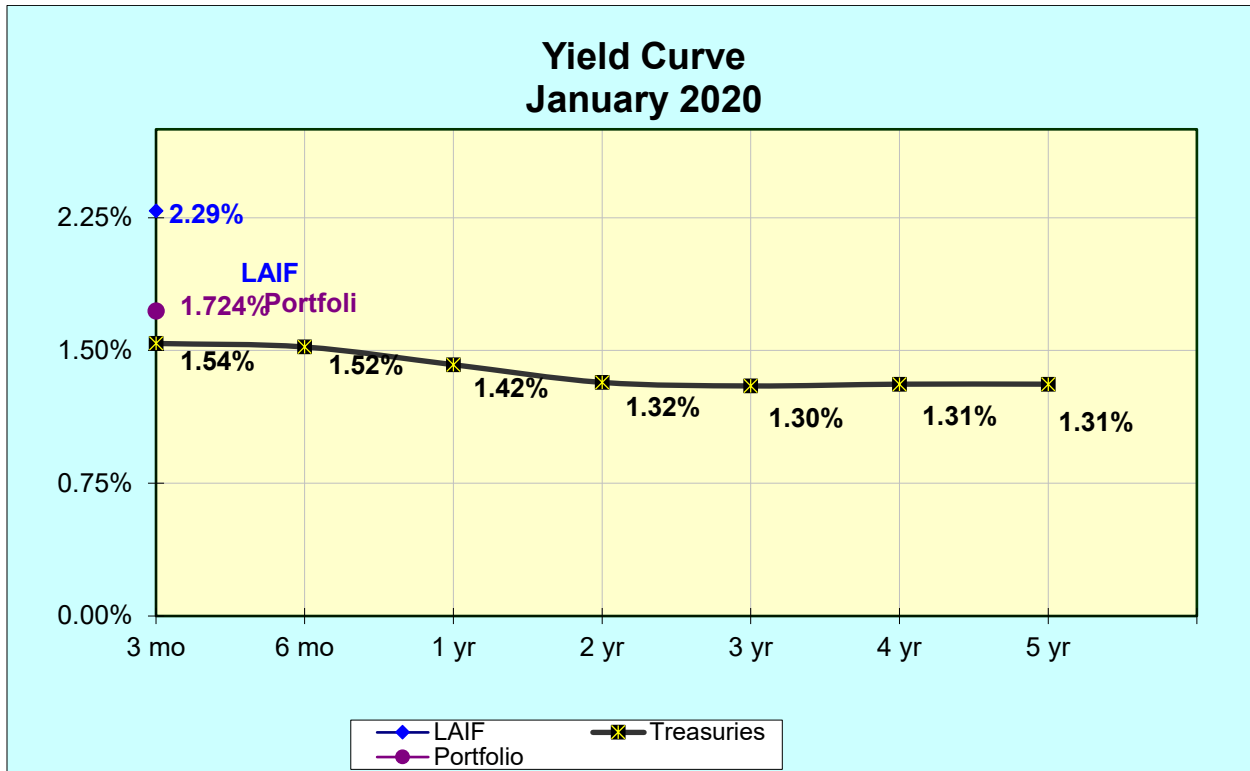
**9. Personnel**

FTE's

<u>Employee authorization as of:</u>	<u>7/01/17</u>	<u>07/01/18</u>	<u>7/01/19</u>
Regular full-time positions	244.00	240.00	240

**10. Investment**

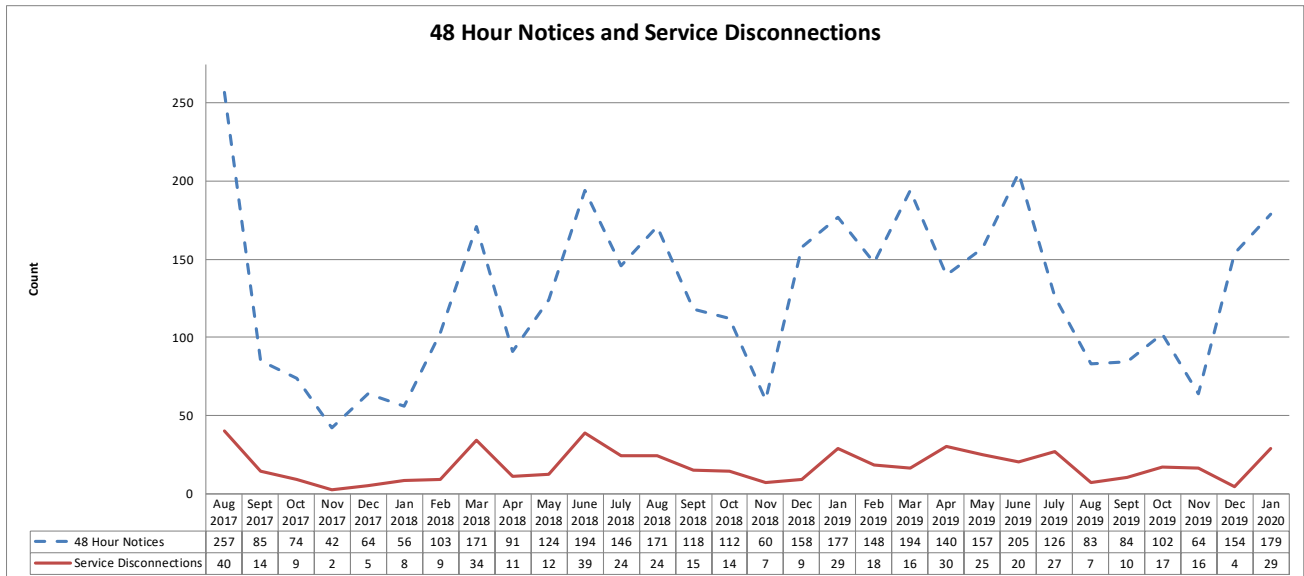
During the month of January 2020, all activity was to/from LAIF and Fidelity MMF.



Marin Municipal Water District Schedule of Investments January 31, 2020						
	Beginning Balance	January		Ending Balance	YTD Accrued Interest	Yield
		Purchases	Maturities			
<b>LOCAL AGENCY INVESTMENT</b>						
Balance	58,258,864			58,258,864		
Withdrawal	-			-		
Interest		110,000	-	110,000	696,490	
Purchase		3,500,000	-	3,500,000		
Sale		-		-		
Balance	58,258,864	3,610,000	-	61,868,864	696,490	2.290%
<b>DISTRICT INVESTMENTS:</b>						
Fidelity Gov't Money Market Fund	2,160,449	2,762	-	2,163,211	41,773	
<b>TOTAL INVESTMENTS</b>	<b>60,419,313</b>	<b>3,612,762</b>	<b>-</b>	<b>64,032,075</b>	<b>738,263</b>	<b>1.480%</b>

**11. Shutoff Notices and Disconnections**

Jan 2020
48 Hour Notices: 179
Service Disconnections: 29





**STAFF REPORT**

**SUBJECT:** Resolution No. 8549 – Updates to the Tier 4 Rate Variance Criteria  
**SUBMITTED BY:** Carrie Pollard, Water Efficiency Department Manager  
**RECOMMENDED ACTION:** Approve Resolution 8549 updating the Tier 4 Rate Variance Criteria.

**EXECUTIVE SUMMARY:**

The Tier 4 Rate Variance allows a single-family residential customer to be billed at the Tier 3 rate for water used in Tier 4, if the customer’s property meets all of the variance’s water conservation criteria. District staff inspect and confirm that the property meets all of the variance criteria, which includes both indoor and outdoor requirements, prior to granting an exemption.

The variance criteria have not been updated since first adopted in 2003. Both indoor and outdoor requirements contain elements that need to be updated to reflect advances in water efficient technology and changes in state law.

The monies used to cover the costs of the Tier 4 Rate Variance are funded through the District’s non-rate revenue.

**BACKGROUND:**

Ordinance 399, adopted October 10, 2003, created a conservation-based rate structure that made adjustments to the tier break points and created a new Tier 4 for all residential accounts. An exemption from Tier 4 rates was created for single-family residential consumers who meet specific water conservation criteria. The ordinance created a mechanism for setting the criteria via a subsequent resolution, which was implemented on November 5, 2003 (Resolution No. 7399). For consumers who qualify, the variance is granted for a two-year period. Thereafter, the consumer must re-apply for the variance and meet the conservation criteria then in effect.

**Water Use Reduction**

In 2004, 23 customers applied for and were granted the Tier 4 Rate Variance exemption. After 5 years of participation in the exemption, water savings for these customers was calculated by comparing their annual water use to that of a control group comprised of single-family customers that experienced Tier 4 water use (but did not have the Tier 4 exemption). This analysis indicated a water savings in the range of 6% - 23%, with an average 5-year net water savings of 16% above customers not in the program.



**Proposed Modifications to the Tier 4 Rate Variance Criteria**

The criteria established in the Tier 4 Rate Variance under Resolution No. 7399 has not been updated since 2003. There have been numerous advancements in water efficiency hardware over the last 16 years which should be incorporated to maximize the water savings at the sites receiving the Tier 4 Rate Variance. In addition, advances in water efficient hardware and landscape efficiency will continue to improve and/ or be regulated through legislation. These advancements should be incorporated into the Tier 4 Rate Variance Criteria to ensure MMWD maximizes the water savings associated with the exemption. Below are the proposed changes to the Tier 4 Rate Variance Criteria.

**Comparison of the Current and Proposed Criteria for the Tier 4 Rate Variance**

<b>Interior Fixtures</b>	<b>2003 Requirement</b>	<b>Proposed Requirement</b>	<b>Notes</b>
Toilet	≤ 1.6 GPF	≤ 1.1 GPF	Exceeds State standards of 1.28 GPF, Aligns with District rebate
Clothes Washer	Energy Star rated	Energy Star Most Efficient	Aligns with District rebate
Showerhead	≤ 2.75 GPM	≤ 1.75 GPM	Exceeds State Standards of 1.8 GPM, Aligns with District low flow hardware distribution
Kitchen Faucet	≤ 2.5 GPM	≤ 1.5 GPM	Exceeds State Standards of 1.8 GPM, Aligns with District low flow hardware distribution
Bathroom Faucet	≤ 2.5 GPM	≤ 1.0 GPM	Exceeds State Standards of 1.2 GPM, Aligns with District low flow hardware distribution, Aligns with District Code

<b>Landscaping &amp; Irrigation</b>	<b>2003 Requirement</b>	<b>Proposed Requirement</b>	<b>Notes</b>
Mulch	Two-inch layer	Three-inch layer	Aligns with State landscape regulations and District Code for new service
Irrigation Controller	Independent programs, repeat start times, 7-day programmable schedules	Weather- or soil-moisture based self-adjusting	Aligns with District Code for new service
Water Budget	None	Calculate Estimated Total Water Use as defined by State Water Efficient Landscape Ordinance	Aligns with State Landscape Regulations and District Code for new service
Isolation Valves	None	At each valve or valve manifold	Aligns with District Code for new service

<b>Swimming Pool/Hot Tubs</b>	<b>2003 Requirement</b>	<b>Proposed Requirement</b>	<b>Notes</b>
Covers	Provided	Maintained	Aligns with District Code for new pools

**Customer Notification**

The Tier 4 Rate Variance has required customers to reapply every two years by inspection to confirm continued eligibility with current criteria. Staff proposed to change the renewal period to every four years. The standard practice has been to send three notifications to customers prior to removal from the exemption. To ensure customer notifications are documented, the district will send the final notification via USPS Certified Mail.

**RECOMMENDATION:**

Staff recommends the Board approve Resolution 8549, updating the Tier 4 Rate Variance Criteria.

**STRATEGIC PLAN ALIGNMENT:**

Requested action aligns with the district's Strategic Plan Goal 1 (Water Supply Resiliency), Strategy 2 (Emphasize water use efficiency as a core water resource element for MMWD), and Objective 1 (Meet 20% reduction in water use by 2020 through water conservation efforts).

<b>REVIEWED BY:</b>	A.S.D Manager/Treasurer	<input checked="" type="checkbox"/>	NA	<input type="checkbox"/>
	General Counsel	<input checked="" type="checkbox"/>	NA	<input type="checkbox"/>
	General Manager	<input checked="" type="checkbox"/>	NA	<input type="checkbox"/>

**ATTACHMENTS:**

1. Board Resolution No. 7399
2. Proposed Resolution No. 8549

**RESOLUTION NO. 7399**

**RESOLUTION OF THE BOARD OF DIRECTORS OF  
THE MARIN MUNICIPAL WATER DISTRICT  
ESTABLISHING THE TIER 4 RATE VARIANCE CRITERIA**

**WHEREAS**, on October 1, 2003 the Board of Directors adopted Ordinance No. 399 and incorporated the rate structure more formally as an element of the District's water conservation program; and

**WHEREAS**, the intention of Ordinance No. 399 was to (1) encourage water conservation, especially in summertime use of water for irrigation purposes, (2) create a conservation based rate structure by making adjustments to both the tier break points and the cost of water within the tiers and creating a new Tier 4 and (3) provide an exemption from the Tier 4 rates to Tier 4 for consumers who meet specific water conservation criteria. In addition, this ordinance proposed a 10% rate increase in the base tier use and a 3% increase in the service charge; and

**WHEREAS**, Section 6.01.027 of Ordinance 399 provides that consumers whose water use is in Tier 4 may qualify for an exemption from the Tier 4 rates and may be billed at the Tier 3 rate for water used in Tier 4, if that consumer permits a District employee to inspect the property (where the water use occurs) and confirm that property meets all of the water conservation criteria contained in a Board resolution entitled "Tier 4 Rate Variance Criteria"; and

**WHEREAS**, attached hereto and incorporated herein as if fully set forth is Exhibit "A", a document entitled "Tier 4 Rate Variance Criteria; and

**WHEREAS**, the Board is satisfied that the water saving elements described in Exhibit "A", if implemented by a residential consumer, will assist in lowering water usage.

**NOW, THEREFORE, BE IT RESOLVED** by the Board of Directors of the Marin Municipal Water District that in order to qualify for a Tier 4 exemption under Section 6.01.027 of the District Code, residential customers shall meet all of the criteria articulated in Exhibit "A" – Tier 4 Rate Variance Criteria .

**PASSED AND ADOPTED** this 5th day of November, 2003, by the following vote of the Board.

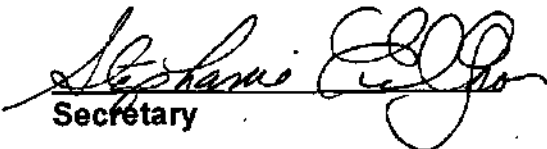
**AYES:** Directors Forman, Gibson, Hill, Huffman and McGlashan

**NOES:** None

**ABSENT:** None

  
President, Board of Directors

**ATTEST:**

  
Secretary

## **EXHIBIT "A"**

### **TIER 4 RATE VARIANCE CRITERIA**

Pursuant to Ordinance 399, the following conservation criteria must be met by a customer and confirmed by an inspection by MMWD in order for the customer to be eligible for exemption from billing in the tier 4 water rate. This exemption must be renewed by inspection every two years for continued eligibility.

#### **LANDSCAPING**

- High-water-use plants and water features do not exceed 10% of the total developed landscape area with the total amount of turf, in no case, exceeding 5,000 square feet.
- All exposed non-turf soil surfaces possess a minimum two-inch mulch layer.

#### **IRRIGATION SYSTEMS**

- Overhead irrigation systems possess the following:
  - An operational distribution uniformity of 60% for turf and 50% for non-turf plantings;
  - Spray heads are located to prevent over spray/run-off; and
  - Matched precipitation rates within each valve circuit.
- Separate irrigation valve circuits exist for the following conditions:
  - Turf;
  - High-water-use plants;
  - Low-water-use plants;
  - Areas with overhead irrigation;
  - Areas with low-flow point application; and
  - Areas with different microclimates.
- Check valves are installed to prevent low-head drainage.
- An automatic rain shut-off device is installed for each irrigation controller.
- The automatic electronic irrigation controller possesses the following features:
  - Independent programs;
  - Repeat start times; and
  - 7-day programmable schedules.
- *Low-flow point application or sub-surface irrigation is installed in lieu of over-head irrigation for the following conditions:*
  - Angle of slope (exceeds 45%);
  - Widely spaced plants; and
  - Soils with poor infiltration rates.
- A sub-meter exists at each irrigation point of connection, which is the location where an irrigation system or remote control valve(s) is connected to a water supply.
- An irrigation valve site map detailing valve locations, gallons per minute demands, precipitation rates, plant types within valve circuits, and operating pressure requirements for each valve is located inside each irrigation controller and is protected from deteriorating.

### **PRESSURE REGULATION**

- A pressure regulation valve is required if the service's static water pressure exceeds 80 pounds per square inch (psi). The pressure regulation valve is to be set at 50 psi and be located between the water meter and the first point of use, other than a fire suppression system or irrigation system designed for greater pressures. The fire suppression system is tapped off the water supply line prior to the pressure-reducing valve. An irrigation system designed for greater than the required 50 psi shall also be tapped off the water supply line prior to the pressure-reducing valve.

### **INTERIOR PLUMBING FIXTURES**

- Toilets that use 1.6 gallons or less (ULFT) of water per flush.
- Energy Star rated water efficient clothes washer.
- Showerheads that use 2.75 gallons or less, of water per minute and there are no more than two showerheads per shower stall.
- Kitchen and bathroom faucets that use 2.5 gallons or less per minute and are equipped with an aerator device.

### **SWIMMING POOL/HOT TUBS**

- Covers are provided.

RESOLUTION NO. 8549

RESOLUTION OF THE BOARD OF DIRECTORS OF THE MARIN MUNICIPAL WATER DISTRICT  
UPDATING THE TIER 4 RATE VARIANCE CRITERIA

WHEREAS, on October 1, 2003 the Board of Directors adopted Ordinance No. 399 and incorporated the rate structure more formally as an element of the District's water conservation program; and

WHEREAS, the intention of Ordinance No. 399 was to (1) encourage water conservation, especially in summertime use of water for irrigation purposes, (2) create a conservation based rate structure by making adjustments to both the tier break points and the cost of water within the tiers and creating a new Tier 4 and (3) provide an exemption from the Tier 4 rates to Tier 4 for consumers who meet specific water conservation criteria. In addition, this ordinance proposed a 10% rate increase in the base tier use and a 3% increase in the service charge; and

WHEREAS, Section 6.01.027 of Ordinance 399 provides that consumers whose water use is in Tier 4 may qualify for an exemption from the Tier 4 rates and may be billed at the Tier 3 rate for water used in Tier 4, if that consumer permits a District employee to inspect the property (where the water use occurs) and confirm that property meets all of the water conservation criteria contained in a Board resolution entitled "Tier 4 Rate Variance Criteria"; and

WHEREAS, on November 5, 2003 the Board adopted Resolution No. 7399 establishing the Tier 4 Rate Variance Criteria; and

WHEREAS, the 2003 Tier 4 Rate Variance Criteria has not been updated or modified since 2003

WHEREAS, water efficient hardware and landscape efficiency have improved since 2003 and will continue to improve and/or be regulated through legislation; and

WHEREAS, the Board acknowledges water savings will be achieved through the Tier 4 Rate Variance Criteria if implemented by a residential consumer.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Marin Municipal Water District that In order to qualify for a Tier 4 exemption under Section 6.01.027 of the District Code, residential customers shall meet all of the criteria articulated in Exhibit A - Tier 4 Rate Variance Criteria.

PASSED AND ADOPTED this 18th day of February, 2020, by the following vote of the Board.

AYES:

NOES:

ABSENT:

## EXHIBIT A - TIER 4 RATE VARIANCE CRITERIA

Pursuant to Resolution 8549, the following conservation criteria must be met by a customer and confirmed by an inspection by MMWD in order for the customer to be eligible for exemption from billing in the tier 4 water rate. This exemption must be renewed by inspection every four years for continued eligibility.

### LANDSCAPING

- High-water-use plants and water features do not exceed 10% of the total developed landscape area with the total amount of turf, in no case, exceeding 5,000 square feet.
- All exposed non-turf soil surfaces possess a minimum three-inch mulch layer.
- Calculate the annual landscape water budget based on plant material, landscape planted area, and local climate, utilizing the MWELo calculation for Estimated Total Water Use:  $(E_{to}) \times (.62) \times (E_{TAF}) \times (\text{Area})$

### IRRIGATION SYSTEMS

- Overhead irrigation systems possess the following:
  - An operational distribution uniformity of 60% for turf and 50% for non-turf plantings;
  - Spray heads are located to prevent over spray/run-off; and
  - Matched precipitation rates within each valve circuit.
- Separate irrigation valve circuits exist for the following conditions:
  - Turf;
  - High-water-use plants;
  - Low-water-use plants;
  - Areas with overhead irrigation;
  - Areas with low-flow point application; and
  - Areas with different microclimates.
- Check valves are installed to prevent low-head drainage.
- Isolation valves shall be installed at the point-of-connection and before each valve or valve manifold.
- An automatic rain shut-off device is installed for each irrigation controller.
- A weather- or soil-moisture based, self-adjusting automatic electronic irrigation controller which possesses the following features:
  - Independent programs;
  - Repeat start times; and
  - 7-day programmable schedules.
- Low-flow point application or sub-surface irrigation is installed in lieu of over-head irrigation for the following conditions:
  - Angle of slope (exceeds 45%);
  - Widely spaced plants; and
  - Soils with poor infiltration rates.
- A sub-meter exists at each irrigation point of connection, which is the location where an irrigation system or remote control valve(s) is connected to a water supply.



- An irrigation valve site map detailing valve locations, gallons per minute demands, precipitation rates, plant types within valve circuits, and operating pressure requirements for each valve is located inside each irrigation controller and is protected from deteriorating.

#### PRESSURE REGULATION

A pressure regulation valve is required if the service's static water pressure exceeds 80 pounds per square inch (psi). The pressure regulation valve is to be set at 50 psi and be located between the water meter and the first point of use, other than a fire suppression system or irrigation system designed for greater pressures. The fire suppression system is tapped off the water supply line prior to the pressure-reducing valve. An irrigation system designed for greater than the required 50 psi shall also be tapped off the water supply line prior to the pressure-reducing valve.

#### INTERIOR PLUMBING FIXTURES

- Toilets that use 1.1 gallons or less (HET) of water per flush.
- Energy Star rated Most Efficient clothes washer.
- Showerheads that use 1.75 gallons or less, of water per minute and there are no more than two showerheads per shower stall.
- Kitchen faucets that use 1.5 gallons or less per minute and are equipped with an aerator device.
- Bathroom faucets that use 1.0 gallons or less per minute and are equipped with an aerator device.

#### SWIMMING POOL/HOT TUBS

- Covers are utilized.



**STAFF REPORT**

**SUBJECT:** Review of PG&E’s 2019 Public Safety Power Shutoff (PSPS) Events & MMWD’s Response to Mitigate the Impact of the PSPS

**SUBMITTED BY:** Michael Ban, Environmental & Engineering Services Division Manager  
Ben Horenstein, General Manager

**RECOMMENDED ACTION:** Discussion

**EXECUTIVE SUMMARY:**

In 2019 PG&E conducted eight Public Safety Power Shutoff (PSPS) events during which PG&E de-energized its power lines and temporarily stopped serving certain customers to prevent wildfires. The PSPS events conducted on October 9<sup>th</sup> – 12<sup>th</sup> and October 26<sup>th</sup> – 31<sup>st</sup> impacted Marin Municipal Water District’s facilities and PG&E customers in MMWD’s service area. The District minimized the impact these events had on its customers by pro-actively preparing for the events, including renting a fleet of mobile backup power generators to provide power to District pump stations and renting a 2 MW backup power generator to provide power to the San Geronimo Water Treatment Plant. This report provides a summary of these events and their impact on MMWD.

**FISCAL IMPACT:** YES \_\_\_\_\_ NO X \_\_\_\_\_ **FISCAL YEAR:** \_\_\_\_\_

**FISCAL IMPACT NARRATIVE:**

The cost to the District to prepare for and respond to PG&E’s October 2019 PSPS events is estimated at \$807,400, and includes rental and use of the backup power generators, fuel, District labor, and lost water revenue.

**BACKGROUND:**

Following the 2017 California wildfire season, one of the most destructive on record, the California Public Utilities Commission (CPUC), on July 12, 2018, adopted Resolution ESRB-8 which provided authority for the de-energization notification, mitigation and reporting requirements to all electric investor owned utilities (including PG&E).

The CPUC adopted its guidelines on May 30, 2019, where Investor Owned Utilities must provide priority notification of potential de-energization events to public safety partners (including MMWD) whenever possible 48 – 72 hours in advance of de-energization.

**PG&E Actions**

On May 30, 2019, the CPUC also determined that PG&E’s 2019 Wildfire Mitigation Plan (WMP) met the requirements of Senate Bill 901. Actions to be taken by PG&E in support of its WMP include installing nearly 600 high-definition cameras in high fire threat areas by 2022; adding

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approximately 1,300 new weather stations by 2022; conducting enhanced safety inspections of electric infrastructure in high-fire threat areas; enhancing vegetation management efforts across high-fire risk areas; and implementing a new program to proactively turn off power for safety when extreme fire danger conditions are forecasted, known as the Public Safety Power Shutoff program (PSPS).

Factors to be considered by PG&E prior to enacting a PSPS event include:

- Red Flag Warning declared by the National Weather Service
- Low humidity levels generally 20% and below
- Forecasted sustained winds generally above 25 mph and wind gusts in excess of approximately 45 mph, depending on location and site-specific conditions such as temperature, terrain, and local climate
- Condition of dry fuel on the ground a live vegetation
- On-the ground, real-time observations from PG&E's Wildfire Safety Operations Center and field observations from PG&E crews

#### **District Actions to Prepare for PG&E's PSPS Events**

To mitigate the impacts to system operation, the Board authorized the rental of a mobile 2 MW backup generator for the San Geronimo Treatment Plant and the rental of 24 mobile backup generators to provide backup power to District pump stations. Staff deployed some of the generators to District pump stations where they remained throughout the wildfire season. Others were stored at the District's corporation yard to be available and deployed during a PSPS event to serve multiple pump stations or pump stations that have site constraints.

Other actions taken by the District in preparation for a PG&E PSPS event included:

- Remote control of pump stations. Reconfigured 27 pump stations to enable backup generators to be started remotely using the District's SCADA system by adding PLC programming and SCADA points.
- Solar panels. Installed solar panels and battery units to provide standby power to critical control valves and SCADA communications repeaters.
- Transfer switches. Installed transfer switches at four pump stations to enable connection to a backup generator.
- Emergency Storage Garage. Installed a transfer switch to allow the District's Emergency Storage Garage to receive backup power, installed LED lamps in all of the fixtures in the Emergency Storage Garage, and installed 16 RTU battery chargers which can charge up to 64 batteries.
- Backup power for office trailer used by field supervisors. Added transfer switches to the office trailer in the Corporation Yard used by the field supervisors for connection to a backup power generator and purchased a backup power generator for this facility.
- IT Data Center. Installed two temporary generator power receptacles to the rack mounted UPS, installed generator power to one AC unit in the Data Center, installed generator power to the AC unit in the communications/UPS room, installed emergency lights in the Data Center and the communications/UPS room, and installed power

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management software on newly provisioned servers connected to the rack mounted UPS (this provides a safe shutdown of servers at power loss).

### **Impact of PG&E PSPS on MMWD Facilities**

#### October 9 – 12 Event

PG&E began shutting off power to PG&E customers in MMWD's service area at 12:19 AM on October 9<sup>th</sup>, and restored power to all PG&E customers in MMWD's service area by 3:54 PM on October 11<sup>th</sup>. PG&E restored service to all impacted customers by October 12<sup>th</sup>. PG&E shut off power to approximately 9,800 PG&E customers in Mill Valley, Sausalito and Fairfax, and to 23 District pump stations and 36 storage tanks. Strategic use of portable generators enabled the District to maintain service to all customers. The District's water treatment plants were not impacted by this event.

#### October 26 – 31 Event

PG&E began shutting off power to PG&E customers in MMWD's service area at 5:18 PM on October 26 and restored power to all PG&E customers in MMWD's service area by 1:12 PM on October 31<sup>st</sup>. All PG&E customers in MMWD's service area (approximately 87,000 PG&E customers) were impacted by this event, and were without power from 43 to 116 hours, depending on location. PG&E shut off power to all District facilities, including all pump stations and storage tanks, the Corporation Yard, the Administration Building at 220 Nellen Avenue, the Water Quality Laboratory, Sky Oaks and all water treatment plants. The San Geronimo Water Treatment Plant ran on emergency power for 113 hours, the Bon Tempe Water Treatment Plant ran on emergency power for 72 hours and the Ignacio Pump Station ran on emergency power for 58 hours. Limited electrical service was provided to the Corporation Yard, Water Quality Laboratory and Administration Building by backup power for 44 hours.

### **PSPS Costs**

The total cost incurred by the District in response to PG&E's 2019 PSPS events is estimated at \$807,400, including generator rental, fuel, labor and an estimated \$200,000 in lost water revenue. These costs are shown in Table 2.

**Table 2**  
**2019 PSPS Costs**

<b>Item</b>	<b>Cost</b>
Generator Rental	\$516,000
Fuel	\$59,000
Labor	\$18,200
Other (i.e. equipment)	14,200
Lost Water Revenue	\$200,000

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Total	\$807,400
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### District Communications Regarding PG&E's PSPS Events

The following list summarizes public outreach measures taken by the District prior to PG&E's 2019 PSPS events:

- Provided information about PG&E's PSPS program in the July/August On the Water Front customer newsletter which is issued to 50,000 households.
- Posted a "Be Prepared" brochure on the District's website.
- Issued letters to approximately 3,000 residents near locations where mobile backup generators were pre-deployed and visible at District pump stations.
- Posted a PSPS fact sheet on the District's webpage.
- Made social media posts on Facebook and Twitter about District preparations for a PSPS and how customers can prepare for emergencies.
- Coordinated with other Bay Area water agencies to provide common and consistent messaging to be used prior to and during a PSPS event, in coordination with PG&E.

Outreach conducted during PG&E's PSPS events included:

- Issued four news releases and media advisories, in English and Spanish.
- Made consistent and frequent social media posts and updates, with a wide reach:
  - Nextdoor: 36,719 impressions
  - Twitter: 5,653 impressions
  - Facebook: 2,254 impressions
- Published *Marin IJ* op-ed following event, explaining how the District prepared and reacted during the event, and the importance of conserving water during a power shutoff.
- Continued to collaborate with Public Information Officers from the County of Marin, and other local jurisdictions to share our messaging and expand our reach.

### District Performance During PSPS Events

No service impacts occurred during the October 9<sup>th</sup> event. During the October 26<sup>th</sup> event, the District maintained service to 99.98% of the District's 60,500 customers<sup>1</sup>. Response from our customers was very positive.

During the October 26<sup>th</sup> event, PG&E shutoff power to the Administration Building. Due to the wiring of the Administration Building, the emergency generator connected to the building could only power a few computers, offices and some telephones on the north side of the building. In order to provide power to more facilities, extension cords were connected to the generator and distributed throughout the building. No power to the HVAC system was available. Despite

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<sup>1</sup> Twelve customers were without water for approximately 4 hours on October 30<sup>th</sup> when a propane vendor failed to fuel a propane generator serving twelve customers on a hydropneumatic system.

these challenges, the Administration Building remained open, staffed and available to our customers throughout the entire PG&E PPS event. Because computer service to the Administration Building was very limited during the October 26<sup>th</sup> event, two customer service representatives were temporarily relocated to functioning work stations in the Corporation Yard which enabled the District to continue responding to telephone inquiries from our customers throughout the event. District employees stayed safe throughout both PG&E PPS events, and gained valuable emergency operations experience.

The District’s employees were a key factor to the District’s success during the PG&E PPS events. District employees developed and implemented the plan to maintain service to our customers; deployed, tested and operated emergency equipment; made strategic improvements to key facilities to maintain service; and provided relevant and timely information to customers. District employees continued to do what was needed to maintain service to our customers, even though many also had the power to their homes shutoff by PG&E.

**Next Steps**

Staff has been active developing “lessons learned” from these events in order to increase our level of preparedness for future events. Over the long term, this includes: upgrading and modernizing the District’s Emergency Operations Center including improving electronic and telephone communications, developing a robust plan for communicating with District employees, and the ability to provide for emergency power to the Administration Building, Corporation Yard and Water Quality Laboratory.

Next steps to be taken by the District to prepare for the 2020 wildfire season include providing outreach to our customers, renting and deploying emergency generators for pumping stations and the San Geronimo Treatment Plant (similar to the 2019 season), meeting with PG&E to understand their plan for 2020 and establish clear communications channels, and meeting with County emergency operations and public information personnel to coordinate our efforts.

Staff will provide a presentation at the meeting which will provide greater details in regards to the preparation for upcoming PPS events.

**STRATEGIC PLAN ALIGNMENT:**

This item aligns with the District’s Strategic Plan Goal 1 (Water Supply Resiliency), Strategy 6 (Plan and prepare for catastrophic emergencies).

<b>REVIEWED BY:</b>	A.S.D Manager/Treasurer	<input type="checkbox"/>	NA	<input checked="" type="checkbox"/>
	General Counsel	<input checked="" type="checkbox"/>	NA	<input type="checkbox"/>
	General Manager	<input checked="" type="checkbox"/>	NA	<input type="checkbox"/>

**ATTACHMENTS:**

None.



**STAFF REPORT**

**SUBJECT:** Future Meeting Schedule and Agenda Items

**SUBMITTED BY:** Board Secretary

**RECOMMENDED ACTION:** Discussion

**FUTURE BOARD MEETINGS:**

**Friday, February 21**

Regular Meeting District Operations Committee/Board of Directors  
(Operations)  
9:30 a.m.

MMWD Board Room

**Thursday, February 27**

Regular Meeting District Finance Committee/Board of Directors  
(Finance)  
9:30 a.m.

MMWD Board Room

**Tuesday, March 3**

Regular Bi-Monthly Board of Directors' Meeting  
7:30 p.m.

MMWD Board Room

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**ACWA Spring Conference**

May 5 - 8

**Board Annual Retreat**

Tentative Dates of June 5 or June 26