

**Summary of City of Flint (City) Actions
In Response to the
EPA Emergency Administrative Order
Updated: May 26, 2016**

Chapters 52, 57, 59a & 59b: Weekly Conference Call Regarding Flint Water Plant Operations May 26, 2016.

EPA Order Due Date: Weekly

MDEQ and the Flint Water Treatment Plant staff held the weekly conference call to review and discuss the weekly summary of water quality and corrosion control parameters that are reported on both the city's May operation report completed to date, and a summary of water quality parameters collected in the distribution system during the week of May 22nd. These reports are being used to monitor the city's corrosion control treatment.

The following observations were noted:

- The supplemental phosphate dosage was consistent and ranged between 2.64 and 2.71 milligrams per liter. Included with this submission are the daily worksheets for the phosphoric acid feed system documenting the city's hourly oversight of this corrosion control treatment.
- All of the phosphate residuals in the distribution system at the sites monitored weekly were above the minimum of 3.1 milligrams per liter, ranging between 3.25 and 3.81 milligrams per liter.
- All pH measurements were greater than 7.0 at the Enhanced Water Quality Monitoring (EWQM) sites and the Point of Entry (Control Station #2) to the system. The pH levels ranged from 7.37 to 7.58 in the water received from Great Lakes Water Authority and from 7.18 to 7.38 at the distribution system sites.
- Automatic flushing devices installed at distribution locations are continuing to serve the purpose of reducing water age and increasing chlorine residuals at most sites, although one or two are still being adjusted.
- Iron levels ranged between 0.01 and 0.10 milligrams per liter at all EWQM sites. Plant tap iron concentrations ranged from 0.02 to 0.04 in the last week.
- All but one of the lead samples collected from the EWQM sites reported no lead detected. The sample from 3216 MLK Boulevard reported 2 ppb lead.
- The city is proceeding with plans for supplemental chlorination and pH adjustment using caustic soda. These treatment systems will allow the city to better control chlorine residuals and maintain corrosion control throughout the distribution system. We are awaiting plans and specifications to be submitted with a construction permit application.
- We also discussed the need for the city to submit an accurate, up to date disinfection byproducts monitoring plan and a Revised Total Coliform site sampling plan.

Overall, the corrosion control treatment is meeting expectations as demonstrated from the water quality monitoring submitted this week.

24hr Record of Ortho-Phosphate Used

Date: 5-19-16						Location of PO ₄		
	PO ₄	CS 2	PO ₄	Pump Setting		CS 2	Train Shed	Operator
	ml/min	MGD	PPM	Speed	Stroke	Gallons on Hand		
0:00	90	14.7	2.75	46	60	199	662	MW
1:00	90	15.2	2.66	46	60			MW
2:00	90	15.3	2.64	46	60			MW
3:00	90	15.6	2.59	46	60			MW
4:00	85	14.9	2.56	43	60			MW
5:00	75	12.2	2.76	39	60			MW
6:00	65	10.4	2.81	33	60			MW
7:00	60	10.3	2.62	31	60	189	662	MW
8:00	80	13.4	2.68	42	60	188	662 TB 5/19/16 1194	TB
9:00	80	13.5	2.66	42	60			TB
10:00	80	13.2	2.72	42	60			TB
11:00	80	13.4	2.68	42	60			TB
12:00	70	11.5	2.73	36	60			TB
13:00	70	11.6	2.71	36	60			TB
14:00	70	12.3	2.55	36	60			TB
15:00	70	12.3	2.55	36	60	180	1194	TB
16:00	70	11.2	2.81	36	60	180	1194	SD
17:00	70	11.2	2.81	36	60			SD
18:00	70	11.3	2.78	36	60			SD
19:00	70	11.7	2.69	36	60			SD
20:00	70	11.1	2.83	36	60			SD
21:00	80	11.3	2.78	36	60			SD
22:00	75	12.7	2.65	39	60			SD
23:00	80	13.6	2.64	42	60	174	1194	SD
ml/min average :		75.83				Total gallons PO ₄ Used: 25 ^g Gallons		
MGD average :		12.66						
PPM average :		2.69				Days of PO ₄ on Hand: 57 days		
(Train Shed + CS2)								

24hr Record of Ortho-Phosphate Used

Date: <i>5/20/16</i>						Location of PO ₄		
	PO ₄	CS 2	PO ₄	Pump Setting		CS 2	Train Shed	Operator
	ml/min	MGD	PPM	Speed	Stroke	Gallons on Hand		
0:00	80	13.1	2.74	42	60	173	1194	BE
1:00	80	13.1	2.74	42	60			BE
2:00	80	13.1	2.74	42	60			BE
3:00	80	12.7	2.83	42	60			BE
4:00	70	12.3	2.55	36	60			BE
5:00	70	11.7	2.69	36	60			BE
6:00	70	12.0	2.62	36	60			BE
7:00	75	12.6	2.67	39	60	162	1194	BE
8:00	85	13.9	2.74	43	60	161	1194	SD
9:00	85	13.8	2.76	43	60			AG
10:00	85	14.7	2.59	44	60			TB
11:00	85	14.6	2.61	44	60			AG
12:00	85	14.3	2.67	44	60			AG
13:00	70	11.5	2.72	37	60			TC
14:00	65	10.7	2.72	34	60			AG
15:00	65	10.6	2.75	34	60			TB
16:00	65	10.7	2.72	36	60	152	1194	ET
17:00	65	10.7	2.72	34	60			ET
18:00	65	10.7	2.72	36	60			SD
19:00	70	11.7	2.69	39	60			SD
20:00	70	11.7	2.69	39	60			SD
21:00	70	11.8	2.44	39	60			ET
22:00	70	12.0	2.62	39	60			ET
23:00	80	13.4	2.68	44	60	<i>140</i> ^{BE} _{5/20/16}	1194	ET
ml/min average : <i>74.375</i>						Total gallons PO ₄ Used: <i>33 gal</i>		
MGD average : <i>12392 / 12.4</i>								
PPM average : <i>2.70</i>						Days of PO ₄ on Hand: <i>55 1/2</i> ^{BE 5-20-16} days		
						(Train Shed + CS2) <i>40.42</i>		



24hr Record of Ortho-Phosphate Used

Date: <i>5/21/16</i>						Location of PO ₄		
	PO ₄	CS 2	PO ₄	Pump Setting		CS 2	Train Shed	Operator
	ml/min	MGD	PPM	Speed	Stroke	Gallons on Hand		
0:00	85	14.0	2.73	45	60	139	1194	BE
1:00	80	13.1	2.74	43	60			BE
2:00	80	13.4	2.68	43	60			BE
3:00	80	13.4	2.68	43	60			BE
4:00	80	13.3	2.70	43	60			BE
5:00	80	13.6	2.64	43	60			BE
6:00	75	12.8	2.63	41	60			BE
7:00	70	12.0 ^{12.5}	2.62	38	60	130		BE
8:00	70	11.7	2.69	38	60	129	1194	TB
9:00	70	12.1	2.60	38	60	129 ^{TB 5/21/16} 265259	1064	TB
10:00	70	12.1	2.60	38	60			TB
11:00	70	11.9	2.68	38	60			TB
12:00	80	12.9	2.78	42	60			TB
13:00	80	12.9	2.78	42	60			TB
14:00	80	13.4	2.68	42	60			TB
15:00	80 ^{TB 85} <i>80</i> _{5/21/16}	13.5	2.66 ^{2.83 TB} <i>2.66</i> _{5/21/16}	42 ^{TB} <i>42</i> _{5/21/16}	60			TB
16:00	85	13.5	2.83	44	60	245	1100	CW
17:00	85	13.5	2.83	44	60			CW
18:00	80	13.2	2.72	42	60			CW
19:00	80	13.5	2.66	42	60			CW
20:00	80	13.3	2.70	42	60			CW
21:00	80	13.5	2.66	42	60			CW
22:00	80	13.5	2.66	42	60			CW
23:00	85	14.1	2.71	44	60	235	1100	CW
ml/min average :		78 ³ / ₄		Total gallons PO ₄ Used:		33 gal		
MGD average :		13.1						
PPM average :		2.70		Days of PO ₄ on Hand:		40.5 days		
(Train Shed + CS2)								

24hr Record of Ortho-Phosphate Used

Date: 5/22/16						Location of PO ₄		
	PO ₄	CS 2	PO ₄	Pump Setting		CS 2	Train Shed	Operator
	ml/min	MGD	PPM	Speed	Stroke	Gallons on Hand		
0:00	85	13.7	2.78	44	60	235	1064	TB
1:00	85	13.5	2.83	44	60			TB
2:00	85	14.4	2.65	44	60			TB
3:00	85	14.9	2.56	44	60			TB
4:00	85	14.3	2.67	44	60			TB
5:00	85	14.1	2.71	44	60			TB
6:00	85	14.6	2.61	44	60			TB
7:00	85	14.0	2.72	44	60	228	1064	TB
8:00	75	12.3	2.74	40	60	227	1064	BE
9:00	75	12.5	2.69	40	60			BE
10:00	75	12.5	2.69	40	60			BE
11:00	75	12.3	2.74	40	60			BE
12:00	75	12.2	2.76	40	60			BE
13:00	75	12.4	2.72	40	60			B.E
14:00	75	12.6	2.67	40	60	218	1064	B.E
15:00	75	12.5	2.69	40	60	217	1064	B.E
16:00	75	12.4	2.72	40	60	217	1064	CW
17:00	70	11.0	2.86	37	60			CW
18:00	70	11.0	2.86	37	60			CW
19:00	70	11.7	2.69	37	60			CW
20:00	70	11.4	2.76	37	60			CW
21:00	75	12.0	2.81	40	60			CW
22:00	80	13.5	2.66	43	60			CW
23:00	80	13.9	2.59	43	60	207	1064	CW
ml/min average :		77.92				Total gallons PO ₄ Used: 28		
MGD average :		12.9						
PPM average :		2.6				Days of PO ₄ on Hand: 45		
(Train Shed + CS2)								

24hr Record of Ortho-Phosphate Used

Date: 5-23-16						Location of PO ₄		
	PO ₄	CS 2	PO ₄	Pump Setting		CS 2	Train Shed	Operator
	ml/min	MGD	PPM	Speed	Stroke	Gallons on Hand		
0:00	90	15.1	2.68	47	60	206	1064	MW
1:00	80	13.6	2.64	42	60			MW
2:00	80	13.5	2.66	42	60			MW
3:00	85	14.1	2.71	44	60			MW
4:00	85	14.5	2.64	44	60			MW
5:00	85	14.4	2.65	44	60			MW
6:00	80	13.4	2.68	42	60			MW
7:00	80	13.9	2.58	42	60	196	1064	MW
8:00	80	13.7	2.62	42	60	195	1064	AG
9:00	80	14.1	2.55	42	60			AG
10:00	80	13.7	2.62	42	60			AG
11:00	80	13.9	2.58	42	60			AG
12:00	75	12.8	2.63	40	60			AG
13:00	75	12.2	2.76	40	60			AG
14:00	75	12.1	2.78	40	60			AG
15:00	75	12.4	2.71	40	60	186		BE
16:00	65	10.4	2.81	34	60	185	1064	BE
17:00	65	10.4	2.81	34	60			BE
18:00	65	10.4	2.81	34	60			BE
19:00	65	10.7	2.73	34	60			BE
20:00	60	10.4	2.59	31	60			BE
21:00	60	9.7	2.78	31	60			BE
22:00	75	12.5	2.69	40	60			BE
23:00	85	14.1	2.71	45	60	177	1064	BE
ml/min average : 81.45						Total gallons PO ₄ Used: 29 gal.		
MGD average : 12.75								
PPM average : 2.68						Days of PO ₄ on Hand: 42 days		
(Train Shed + CS2)								

24hr Record of Ortho-Phosphate Used

Date: 5-24-16						Location of PO ₄		
	PO ₄	CS 2	PO ₄	Pump Setting		CS 2	Train Shed	Operator
	ml/min	MGD	PPM	Speed	Stroke	Gallons on Hand		
0:00	85	14.3	2.67	45	60	176	1064	MW
1:00	85	14.4	2.65	45	60			MW
2:00	85	14.4	2.65	45	60			MW
3:00	85	14.6	2.61	45	60			MW
4:00	85	14.1	2.71	45	60			MW
5:00	85	13.9	2.74	45	60			MW
6:00	85	14.2	2.69	45	60			MW
7:00	85	13.9	2.74	45	60	166	1064	MW
8:00	85	13.8	2.77	45	60	165	1064	AG
9:00	85	13.9	2.74	45	60			AG
10:00	85 ^{MW} ₈₀	13.1	2.74	42	60			MW
11:00	80	13.5	2.66	42	60			AG
12:00	80	13.1	2.74	42	60			AG
13:00	80	13.1	2.74	42	60			AG
14:00	80	13.3	2.70	42	60			MW
15:00	80	13.2	2.72	42	60	155	1064	MW
16:00	80	13.3	2.70	42	60	155	1064	BE
17:00	75	12.5	2.69	40	60			BE
18:00	75	12.4	2.71	40	60			BE
19:00	75	12.4	2.71	40	60			BE
20:00	75	12.2	2.76	40	60			BE
21:00	75	12.3	2.75	40	60			BE
22:00	85	13.7	2.78	45	60			BE
23:00	85	13.8	2.76	45	60	150	1064	BE
ml/min average : 81.45						Total gallons PO ₄ Used: 26 gal		
MGD average : 13.47								
PPM average : 2.71						Days of PO ₄ on Hand: 50 days		
(Train Shed + CS2)								

24hr Record of Ortho-Phosphate Used

Date: 5-25-16						Location of PO ₄		
	PO ₄	CS 2	PO ₄	Pump Setting		CS 2	Train Shed	Operator
	ml/min	MGD	PPM	Speed	Stroke	Gallons on Hand		
0:00	90	15.3	2.62	47	60	149	1064	MW
1:00	90	15.3	2.62	47	60			MW
2:00	90	15.1	2.68	47	60			MW
3:00	90	15.2	2.66	47	60			MW
4:00	85	14.3	2.67	45	60			MW
5:00	85	14.4	2.65	45	60			MW
6:00	85	14.1	2.71	45	60			MW
7:00	85	14.1	2.71	45	60	138	1064	MW
8:00	80	13.0	2.74	43	60			DS
9:00	75	12.8	2.63	40	60			BW
10:00	75	12.3	2.74	40	60			BW
11:00	75	12.8	2.63	40	60			BW
12:00	75	12.7	2.65	40	60			BW
13:00	75	12.9	2.61	40	60			AG
14:00	75	12.8	2.63	40	60			TB
15:00	75	12.9	2.61	40	60	131	1064	TB
16:00	65	11.2	2.61	34	60	130	1064	BT
17:00	65	11.3	2.58	34	60			BT
18:00	65	11.2	2.61	34	60			BT
19:00	65	11.1	2.63	34	60			BT
20:00	65	11.3	2.58	34	60			BT
21:00	70	11.8	2.66	37	60			BT
22:00	75	12.4	2.72	40	60			BT
23:00	75	13.0	2.59	40	60	122	1064	BT
ml/min average : 77.08						Total gallons PO ₄ Used: 27 gal		
MGD average : 13.05								
PPM average : 2.64						Days of PO ₄ on Hand: 43 days		
(Train Shed + CS2)								