



VEOLIA WATER NEW YORK INC.

PFAS PROGRESS REPORT

3RD QUARTER OF 2022 - Revision A (November 21, 2022)



1. OVERVIEW

PFOA and PFOS are chemical substances that have been used for decades to manufacture firefighting foam and many common household and consumer products the public uses frequently, including non-stick cookware, fast food packaging, adhesives, paints, shampoo and cosmetics.

Since 2016, states and water providers have followed the Environmental Protection Agency (EPA) health advisory level of 70 parts per trillion (ppt) for PFOA and PFOS in drinking water. Multiple laboratory tests confirmed that Veolia Water New York Inc.'s ("Veolia" or the "Company") water system in Rockland County, New York (Public Water Supply ID#NY4303673) tested well below the 2016 federal advisory levels for these substances. In June 2022, the EPA issued new health advisory levels for PFOA and PFOS which are set at very low levels: 0.004 and 0.02 ppt, respectively, which is below the current detection and reporting limits. Health advisory levels are not binding regulations and are intended to provide technical information that federal and state agencies and local officials can utilize in considering monitoring, treatment, and policy issues.

In late August 2020, the State of New York set a new standard of 10 ppt for PFOA and PFOS in drinking water. In anticipation that the New York State Department of Health would set a new standard for PFOA and PFOS, as it did in 2020, Veolia engineers and water quality experts began investigating and designing treatment solutions in 2019.

Veolia has submitted the applications for approval of new treatment facilities to the New York State Department of Health in Q2 2021 and is working closely with the New York State Department of Health and the Putnam County Health Department to achieve compliance by installing the advanced treatment.

Veolia received a deferral from the New York State Department of Health on January 7, 2021 for the implementation of treatment, recognizing the design, testing, permitting, construction, and other activities will take time to complete. As part of the deferral process, the Company submitted a detailed action plan that will ensure that the water system will meet the new State standard and has produced this progress report as a further requirement of the deferral process. In Q3 2022, Veolia submitted a request and received the approval on August 23, 2022 for an additional deferral for the project due to delays in receiving the required approvals to begin the construction of the new treatment facilities.

1.1. Test Results

The results of compliance and confirmation sampling are summarized in Table 1-1 for the sites with analytical results confirming current or previous MCL exceedance.

Table 1-1: Sample Test Results

Well Site	Sample Date*****	PFOS (ppt)	PFOA (ppt)
SW 70	10/2/2020	4.7	11
SW 70	10/14/2020	5.4	11
SW 82	10/1/2020	5.3	12
SW 82	10/22/2020	5.5	12
SW 31A	10/1/2020	3.6	19
SW 31A	10/15/2020	3.8	19
SW 31A	10/22/2020	9.5	14
SW 38	10/2/2020	5.2	11
SW 38	10/15/2020	5.4	11
SW 17	10/2/2020	9	14
SW 1A	10/2/2020	7.2	14
SW 3	10/2/2020	6.4	12
SW 17	10/7/2020	9	15
SW 1A	10/7/2020	7.4	14
SW 3	10/7/2020	5.5	10
SW 20*	10/1/2020*	47*	11*
SW 16	10/1/2020	8.6	16
SW 16	10/14/2020	11	16
SW 20*	10/22/2020*	47*	10*
SW 56	10/2/2020	4.2	11
SW 56	10/14/2020	4.2	10
SW 70	1/13/2021	ND	3.6
SW 82	1/12/2021	5.2	12
SW 31A**	Well out of service in Q1-2021		
SW 38	1/13/2021	3.6	5.9
SW 17	1/13/2021	9.5	13
SW 1A	1/13/2021	7.4	13
SW 3	1/13/2021	6.1	10
SW 20*	1/12/2021	32	8.9
SW 16	1/12/2021	7.3	17
SW 56	1/13/2021	4.6	11
SW 15	1/13/2021	2	12

Well Site	Sample Date*****	PFOS (ppt)	PFOA (ppt)
SW 19	1/12/2021	5.1	13
SW 23	1/12/2021	6.4	11
SW 30	1/12/2021	3.2	11
SW 70***	Well out of service in Q2-2021		
SW 82	4/14/2021	5.8	12
SW 31A	5/20/2021	4.1	18
SW 38	4/14/2021	5.5	11
SW 17	4/13/2021	9	14
SW 1A	4/14/2021	7.6	13
SW 3	6/10/2021	7.6	12
SW 20*	4/14/2021	40	10
SW 16	4/14/2021	10	18
SW 56	4/14/2021	4.8	12
SW 15	4/14/2021	7.3	17
SW 15	4/28/2021	8.3	17
SW 19	4/13/2021	5.3	14
SW 23	4/13/2021	6.3	12
SW 30	4/13/2021	3.5	13
SW 4	4/14/2021	6.7	12
SW 4	5/13/2021	4.9	8.9
SW 38	7/7/2021	5.2	11
SW 19	7/7/2021	5.6	14
SW 17	7/8/2021	9.3	14
SW 1A	7/8/2021	7.5	13
SW 30	7/8/2021	2.9	11
SW 31A	7/8/2021	5.2	18
SW 56	7/8/2021	4.4	11
SW 82	7/8/2021	4.8	11
SW 15	7/8/2021	8.3	18
SW 16	7/8/2021	6.6	15
SW 20*	7/8/2021	3.3	11
SW 23	7/7/2021	5.9	10
SW 3	7/8/2021	5.9	10
SW 4	7/8/2021	2.8	6.2
SW 70***	Well out of service in Q3-2021		
SW 15 ****	12/2/2021	ND	ND

Well Site	Sample Date*****	PFOS (ppt)	PFOA (ppt)
SW 16	10/5/2021	6.8	14
SW 17	10/6/2021	8.8	13
SW 19	10/6/2021	4.6	14
SW 1A	10/6/2021	7.4	12
SW 20*	10/5/2021	32	11
SW 3	10/6/2021	6.2	9.7
SW 31A	10/6/2021	5.9	18
SW 31A****	12/7/2021	ND	ND
SW 38	10/6/2021	5.3	11
SW 4	11/4/2021	2.6	5.7
SW 56	10/6/2021	4.7	12
SW 82	10/5/2021	5.2	12
SW 30	10/6/2021	3.2	13
SW 6	10/6/2021	3.8	7.5
SW 23	10/6/2021	5.6	11
SW 70*** Out of Service Q4-21			
SW 15*** Out of Service Q1-22			
SW 16	1/5/2022	4	14
SW 17	1/6/2022	8.1	12
SW 19*** Out of Service Q1-22			
SW 1A	1/6/2022	7.7	13
SW 20*	1/5/2022	23	9.8
SW 3	1/6/2022	4	7.2
SW 31A*** Out of Service Q1-22			
SW 38	1/5/2022	5.6	12
SW 4	1/6/2022	2.5	6.4
SW 56	1/6/2022	4.6	11
SW 82	1/5/2022	5.4	12
SW 30	1/6/2022	3.6	12
SW 6	1/6/2022	3.4	6.8
SW 23	1/6/2022	6.6	10
SW 70*** Out of Service Q1-22			
VW 15 (SW 15)	4/11/2022	ND	ND
VW 16 (SW 16)	4/11/2022	4.4	15
VW 17 (SW 17)	4/11/2022	7.6	13
VW 19 (SW 19)*** Out of Service since Q1-22			
VW 1A (SW 1A)	4/11/2022	7.6	13

Well Site	Sample Date*****	PFOS (ppt)	PFOA (ppt)
VW 20 (SW 20)*	4/11/2022	17	9.8
VW 3 (SW 3)	4/11/2022	4.1	7.7
VW 31A (SW 31A)	4/20/2022	ND	ND
VW 38 (SW 38)	4/12/2022	4.7	10
VW 4 (SW 4)	4/20/2022	3.3	7.1
VW 56 (SW 56)	4/11/2022	2.5	4.6
VW 82 (SW 82)	4/12/2022	4.7	11
VW 30 (SW 30)	4/12/2022	3.2	11
VW 6 (SW 6)	4/11/2022	3.4	6.6
VW 23 (SW 23)	4/12/2022	5.2	11
VW 70 (SW 70)*** Out of Service since Q1-22			
VW 15 (SW 15)	8/2/2022	ND	ND
VW 16 (SW 16)	8/2/2022	6.1	16
VW 17 (SW 17)	8/3/2022	9.7	14
VW 19 (SW 19)*** Out of Service since Q1-22			
VW 1A (SW 1A)	8/2/2022	8.6	14
VW 20 (SW 20)*	8/2/2022	24	9.8
VW 3 (SW 3)	8/3/2022	6.1	10
VW 31A (SW 31A)	8/2/2022	ND	ND
VW 38 (SW 38)	8/18/2022	4.8	9.5
VW 4 (SW 4)	8/3/2022	3.7	7.6
VW 56 (SW 56)	8/4/2022	4.9	12
VW 82 (SW 82)	8/3/2022	6	13
VW 30 (SW 30)	8/2/2022	3.9	14
VW 6 (SW 6)	8/3/2022	3.6	7.1
VW 23 (SW 23)	8/2/2022	6.9	13
VW 70 (SW 70)	8/18/22	2.2	5.2
VW 93 (SW 93) †	8/2/22	5.4	12
VW 94 (SW 94) †	8/2/22	4.6	11
VW 93 (SW 93) †	10/6/22	6.7	11
VW 94 (SW 94) †	10/6/22	5.5	9.9

Notes:

Red font indicates concentrations greater than the new New York State Drinking Water Standard of 10 parts per trillion (ppt) and require treatment.

Gray shading indicates sample results from previous periods

* VW 20 has been shut down for many years and will not be used until treatment is installed.

** VW 31A, 15 and 19 were out of service in Q1-22 due to lower demand

VW 23 was placed and remains out of service for many years.

*** VW 70 was out of service in Q2-21, Q3-21, Q4-21, Q1-22 and Q2-22

**** VW 15 & VW 31A PFOA & PFOS results were non-detect after implementation of treatment upgrades in Q4-21

All well, VW designations have been renamed VW as of Q2 due to Veolia's purchase of SUEZ.

***** Analytical results depicted from 9/2020 through 6/2022 are EPA Method 537. Analytical results from 7/2022 to date are EPA Method 533. EPA Method 537.1 data from 7/2022 to date is available upon request.

† Wells VW 93 and VW 94 sampling results exceeded the MCL for PFOA for the first time in Q3 2022. The revised Q3 2022 PFAS Progress Report (Revision A, dated November 21, 2022) includes the sample results for both wells VW 93 and VW 94 in both Table 1-1 and in the Supplemental Sample Test Results Report.

1.2. Progress Update

Veolia successfully installed treatment upgrades for PFOA/PFOS removal at two well sites in Rockland County. One of the sites, Monsey 31A, included the highest compliance PFAS sample for an active well site (19 ppt). Both sites had existing media treatment (Calgon F300 granular activated carbon) that was designed to target different industrial/commercial organic compounds, or volatile organic carbons (VOC). Veolia performed bench-scale studies of alternate treatment media types, and the selected media (Calgon F400 granular activated carbon) proved to be effective for PFOA/PFOS removal. Veolia and its vendors performed the removal, transport, treatment, and disposal of the spent Calgon F300 granular activated carbon media for each site. Then, new treatment media (Calgon F400 granular activated carbon) was installed, including the proper backwashing, rinsing, flushing, and sampling to ensure water quality compliance. Subsequent PFAS and VOC sample results at the two locations were non-detect, confirming the effective remediation of the sites. Both wells were offline in Q1 2022, allowing the wells to rest during lower demand periods. In Q2 2022 the two wells were back online and the Q2 PFAS and VOC sample results at the two locations were again non-detect.

Veolia continues to identify treatment requirements, including design and construction needs for PFOA/PFOS treatment facilities and procurement and receipt of Granular Activated Carbon (GAC) vessels and media, which is identified as the Best Available Technology for the treatment of PFOA/PFOS. Veolia's proactive efforts, including bench testing studies for treatment alternatives, design for treatment equipment and facilities, and bidding for long-lead time equipment, began in advance of New York State's adoption of the new state standard for PFOA and PFAS, and as early as 2019 for certain sites.

In the third quarter of 2022, Veolia made progress on multiple fronts to meet the new standards for PFOA and PFOS in New York State.

Veolia continued to progress with the State and Local agencies to finalize approvals for the treatment facilities at all wells sites (12 sites, 20 wells) in Rockland County. The plans include all structural, architectural, process piping, electrical, HVAC, and instrumentation and control components needed to provide a fully functional treatment system in compliance with state and local codes and regulations. Veolia continues to proactively plan and move forward with adding treatment to certain sites that are now below the State standard, but may be at risk of exceeding the standard in the future.

Three sites received building permit approvals in the 4th quarter of 2021 and one additional site received building permit approval in Q2 and building construction is underway at these sites. Four additional sites have received building permits in Q3 2022 and have begun construction.

Because the treatment equipment delivery times may extend beyond one year due to supply chain constraints and demand, Veolia continued to coordinate with vendors to expedite equipment fabrication and coordinate delivery schedules with contractors. Equipment deliveries have started in Q1-22 and will continue into Q4-2022. The proactive design and fabrication efforts by Veolia helped mitigate potential supply chain delays by three months or more.

1.3. Action Plan Schedule - Key Milestones

Veolia is moving as quickly as possible to complete the implementation of treatment solutions and in an effort to complete the work on or around 24 months. However, circumstances beyond VVNY’s control, including unavailability of local permitting resources and unprecedented supply chain constraints associated with COVID-19 are expected to delay ‘Treatment Facilities in Service’ by up to eighteen (18) months. The original estimated completion dates and actual completion dates are summarized in Table 1-2 for the impacted sites.

Table 1-2: Project Schedule

Milestone	Initial Estimated Completion Date	Actual Completion Date
Treatment Equipment Bidding	4 th Quarter 2020	4 th Quarter 2020
Engineering, Procurement, and Construction Award	1 st Quarter 2021	1 st Quarter 2021
Complete Design / Submit for Permitting Review	2 nd Quarter 2021	2 nd Quarter 2021
Commence Project Construction / Implementation	4 th Quarter 2021	4 th Quarter 2021 (partial)*
Treatment Facilities In Service	3 rd Quarter 2022	-.**

*Mobilization for construction start was completed for three sites in Q4-21, one additional site in Q2-22 and four additional sites in Q3-22. The remaining sites are expected to be delayed by up to twelve months or more due to unavailability of local permitting resources

**Expected to be delayed by up to eighteen months due to unavailability of local permitting resources and supply chain constraints

1.4. Potential Schedule Impacts

The installation of water quality treatment must be planned and constructed carefully to ensure effectiveness. There are several steps that must be taken prior to implementation of treatment in a drinking water system, including:

- Bench testing and studies
- Issuance of a requests for proposal for design services, permitting services, equipment fabrication, and construction
- Contract award and execution for above services
- Detailed design
- Permitting
- Construction
- Start-up and commissioning

Similarly, several industry resources, many of whom are independent and outside of a water utility's management or control (as listed below), are needed to fully execute the treatment plan, which could result in unanticipated delays:

- Availability of laboratories to manage the volume and reporting of water quality data
- Availability of consulting services needed:
 - to conduct bench and/or pilot scale studies to develop treatment design criteria
 - to detail treatment design and preparation of permit applications
 - to develop construction bid documents
 - to procure construction contracts,
- Availability of construction services needed install and commission treatment facilities
- Availability of appropriate commercial treatment equipment and media
- Availability of Health Department and local planning board for permitting and review processes
- Approval from other utilities (I.e., Orange and Rockland)

Permits and/or approvals are anticipated to be required from the following agencies:

- Rockland County Department of Health
- New York State Department of Health
- New York State Department of Environmental Conservation
- Town Planning Board and Building Department.
- Town Board, Architectural Commission and/or Zoning Board of Appeals may also be required, depending on whether the design requires a variance

During the detailed design of the treatment facilities, permitting constraints outside of Veolia's control are expected to result in unanticipated delays. The permitting constraints include unavailability of local planning boards for permitting and review processes, and various site constraints, including zoning and environmental conflicts. Delays due to local Planning Board resources are estimated at up to six months or more.

Supply chain constraints associated with COVID-19 have caused unanticipated delays in the fabrication and delivery of materials and equipment, ranging from stainless steel vessels to building materials to freight carriers. Delays due to materials and equipment resources are currently estimated at up to three months or more. Veolia's proactive efforts to release major materials for fabrication in parallel with permitting reviews and to source alternate vendors are expected to mitigate schedule delays by three months.

In addition, many large and medium-sized public community water systems and non-community water systems will need to comply with the new regulations at approximately the same time, potentially creating bottlenecks in the above areas and resulting in schedule impacts.

Despite Veolia's affirmative efforts to meet all existing project milestones, the hardships beyond Veolia's control (noted above) are predicted to cause up to eighteen (18) months of delay, which required an additional deferral from the State as of Q3 2022. This additional deferral was approved on August 23, 2022.

1.5. Implementation of Interim Measures

Interim measures continue to be implemented to reduce the use of certain sources that have exceeded the new State standard for PFOA and PFOS. These measures will be taken as feasible under normal system operating conditions during average day demand periods only. Peak demand periods and/or changes in these conditions such as a main break, failure of another source or a large extended fire, or other conditions as deemed necessary by Veolia, would entail utilization of any and all sources as needed to maintain adequate supply and pressure to our customers and communities we serve. Veolia will continue to operate the water system to maintain proper flow, pressure, and to optimize water quality for our customers and the communities we serve at all times.

1.6. Emergency Conditions

No emergency conditions or changes in demand impacted the implementation of interim measures in the previous quarter.