Verner Drinking Water System

Section 11

2023 Annual Report

Section 11 - ANNUAL REPORT

1.0 Introduction

Drinking-Water System Name:	**VERNER DRINKING WATER SYSTEM**
Drinking-Water System No.:	210000951
Drinking-Water System Owner:	The Corporation of the Municipality of West Nipissing
Drinking-Water System Category:	Large Municipal, Residential System
Period being reported:	January 1, 2023 to December 31, 2023

Does your Drinking Water System serve more than 10,000 people? No

Is your annual report available to the public at no charge on a web site on the Internet? Yes

Location where Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

Municipality of West Nipissing
Sturgeon Falls Water Treatment Plant
11 Nipissing Street
Sturgeon Falls, Ontario P2B 1J4

Drinking Water Systems that receive drinking water from the Verner Drinking Water System

The Verner Drinking Water System provides all drinking water to the community of Verner.

The Annual Report was not provided to any other Drinking Water System Owners.

The Ontario Clean Water Agency prepared the 2023 Annual/Summary Report for the Verner Drinking Water System and provided a copy to the system owner; the Municipality of West Nipissing. The Verner Drinking Water System is a stand-alone system that does not receive water from or send water to another system.

Notification to system users that the Annual Report is available for viewing is accomplished through:

- A notice is posted on the web at http:www.westnipissingouest.ca/pop/dep-utilities.html, and the annual report is available for viewing, at the above website.
- Discussions during public council meetings.

2.0 Description of the Drinking Water System (DWS No. 210000951)

The Verner Drinking Water System (DWS) is owned by the Corporation of the Municipality of West Nipissing and consists of a Class 3 water treatment subsystem and a Class 1 water distribution subsystem. The Ontario Clean Water Agency is designated as the Overall Responsible Operator (ORO) for the water treatment plant (WTP). The Municipality of West Nipissing provides the ORO for the Verner Water Distribution System.

The Verner DWS has an approved rated capacity of 1054 m^3/day and provided a potable water supply to Verner.

Raw Water Supply

The Verner Municipal Water System is a surface water system that draws water from the Veuve River. The Veuve River is part of the Lake Nipissing watershed. The intake structure is located 12 kilometers (km) upstream of Lake Nipissing and 48 km downstream of the source. The Veuve River, upstream from the intake, has a catchment area of approximately 92,000 hectares (ha). This area is well developed and includes: Highway (Hwy) 17 corridor; Canadian Pacific Railway (CPR) railway tracks; housing and cottage development. The water treatment plant's intake facility consists of an intake structure located 5 meters (m) below the low river level, connected to a raw water wet well by a 42.7 m long, 250 millimeter (mm) ductile iron pipe. The intake structure is approximately 20 m from the riverbank. In accordance with the Permit To Take Water (PTTW), the allowable rate of water taking is 12.25 litres per second (L/s) with a maximum daily volume of 1059 cubic meters per day (m^3/d).

Water Treatment

The Verner WTP was originally commissioned in 1975 and underwent major regulatory upgrades in 2005 which included replacement of all chemical feed system equipment and tanks; replacement of the plant instrumentation and controls; installation of a Ultra-Violet Irradiation (UV) system for primary disinfection; installation of piping and valves to provide treatment-to-waste functionality; new raw water and treated water magnetic flow meters; and the installation of a 125 kilowatt (kW) standby diesel generator. Also, radio telemetry equipment was installed at the elevated storage tank to permit treatment plant-elevated tank communication and control. The Verner WTP is a conventional treatment facility, with a designed capacity of 1059 m^3/d. Conventional treatment is comprised of coagulation, flocculation, sedimentation & dual media rapid sand filtration, primary disinfection & secondary disinfection. Furthermore, disinfection is achieved through the use of UV (primary disinfection) and chlorine gas (primary (adenovirus) /secondary disinfection)). Chemically assisted filtration is through the use of an "Ecodyne Graver Monoplant" package treatment plant. The Ecodyne Graver Monoplant package treatment plant consists of a mixing zone; flocculation zone; settling compartment and flock barriers; blowdown valve and rapid flow by gravity sand and GAC filters. Chemical treatment includes the addition of polymer, polyaluminum chloride (PACl), pre and post soda ash, chlorine gas for disinfection and potassium permanganate for iron and manganese removal to control taste and odour. An occupancy alarm was installed at the WTP in 2017 and set to dial out after 64 hours. Recently plant underwent a polyaluminum chloride (PACl) trial, which was successful and plant is now using PACl as coagulant. In addition, potassium permanganate trial is now successful and currently in use full time to rid the system of chlorine dioxide and the various disinfection by products it causes, such as chlorite and chlorate. Furthermore, a trial with ENV 24P10PC was approved by MECP and started on November 30, 2023. This new chemical will be used for sequestering of manganese and supplier mentioned it might help lower HAAs as well.

Water Storage and Pumping Capabilities

There are four (4) below grade clear wells connected in series having a total area, total capacity and useable capacity of 134 square meters (m^2), 269 cubic meters (m^3) and 234 m^3 respectively. The high lift pumping station has a firm capacity of 1,090 m^3/d with three (3) identical vertical turbine high lift pumps each having a capacity of 545 m^3/d at a total dynamic head (TDH) of 53.3 m.

Waste Management

A backwash handling system includes a 4.56 m by 3.05 m deep waste equalization tank which collects waste sludge, backwash water, all in-plant drainage and sanitary waste; one (1) submersible pump that pumps 272.2 m^3/d at a TDH of 7.0 m discharging to the municipal sanitary sewage system.

Emergency Power

Standby emergency power is supplied at this plant by a 125 kW standby diesel generator with automatic switchover controls installed as part of the 2005 plant upgrades.

Distribution System

The Verner Water Supply System is classified as a Large Municipal Residential Drinking Water System which serves a population of approximately 1100 consumers. The Verner Water Distribution System consists of approximately 8 km of water main. The system includes an offsite water storage facility located on the west side of Dubeau Street (192 m north of the intersection of Dubeau Street and Vercheres Avenue). The facility is a steel and concrete elevated storage tank, having a total storage capacity of 568 m^3 and about 40 m above ground equipped with low level alarm and an overflow. The system has approximately 50 hydrants. The distribution system undergoes routine flushing twice a year, in the spring and in the fall.

3.0 List of Water Treatment Chemicals Used Over the Reporting Period

The following chemicals are used in the treatment process at the Verner Water Treatment Plant.

- Polyaluminum Chloride (PACl) – Coagulation/Flocculation
- Potassium Permanganate ($KMnO_4$) – Iron and Manganese Control
- Zinc Chloride and Phosphoric Acid solution (ENV 24P10PC) – Iron and Manganese Control
- Chlorine Gas – Primary (1-log removal of viruses (Adenovirus)) and Secondary Disinfection
- Magnafloc LT 20 Poly Acrylamide Polymer – Coagulant Aid
- Sodium Carbonate (Soda Ash) –Alkalinity and pH Adjustment

4.0 Significant Expenses Incurred in the Drinking Water System

OCWA is committed to maintaining the assets of the drinking water system and maintains a program of scheduled inspection and maintenance activities using a computerized Work Management System (WMS). OCWA implemented a new Workplace Management System (Maximo) in 2015, which better maintains and optimizes facility assets. All routine maintenance activities conducted at the water treatment plant were accomplished in 2023.

Significant expenses incurred in the drinking water system include:

- Environor injection point saddle corroded and leaked from a crack in the weld. Replacement saddle ordered.
- New chemical injection saddle installed to replace leaking saddle for sequestering agent.
- Generator issue with start/stop due to wire connection was repaired.
- Programmable logic controller (PLC) fail alarm triggered due to SCADA historian issue. Fixed programming and brought the plant online.
- Flygt low lift pump was rebuilt and kept as critical spare.
- Stroma reviewed UV programming issues.
- Replaced two UV Ballasts
- Ordered critical spare ballasts for the UV system.
- OCWA Engineering and the Municipality of West Nipissing prepared request for proposal (RFP) for tower rehabilitation project. Proposal for tender approved to proceed.
- Scanned copies of old drawings in digital format as needed for engineering of tower rehabilitation project.
- Corrected programming for proper high lift pump rotation.
- Sequestering agent injection saddle leak. Two spares ordered.
- Improved access to operate valves in the tower valve chamber without a confined space entry.
- Low lift pump failed and was swapped with spare. Inoperable pump brought to Xylem for assessment.
- Issues with de-sludge solenoid valves. Two new valves installed.
- High lift pump was pulled out and sent for rebuild assessment. The assessment shows the pump is clogged by excessive manganese deposits. The Municipality will decide to rebuild or replace in the New Year.
- Weld patch repair on package plant.
- Stroma fixed UV alarm activation and programming to space out backwash sequence to avoid stacking.

5.0 Drinking Water System Highlights

- Ministry of the Environment, Conservation and Parks (MECP) last inspection took place on May 18, 2022. The inspection included a physical assessment of the Verner water treatment plant and a document review. The system received a risk rating of 4.03% with a final inspection rating of 95.97%. There was one non-compliance issue and zero best management practice issues identified (discussed in last year's annual report). There were no MECP inspections completed in 2023.

- SAI Global conducted a 12-Month Surveillance audit of the Verner Water Treatment Plant's Water Systems' Quality and Environmental Management System (QEMS). The system and processes associated with the QEMS evaluated on January 25, 2023 to ensure implementation of the Operational Plan and procedures and conformance to the Drinking Water Quality Management Standard version 2.0. There were no findings identified. Re-accreditation achieved on March 5, 2021.

6.0 Details on Notices of Adverse Test Results and Other Problems Reported to & Submitted to the Spills Action Center

Based on information kept on record by OCWA, one (1) adverse water quality incidents (AWQI) were reported to the Ministry of the Environment's Spills Action Centre (MOE SAC) in 2023.

AWQI 163095 - Precautionary AWQI called in by Operator. Flat line trending for chlorine 12:09 till 2207, instrument left in calibration mode. Took raw totalizator reading and weight difference and calculated chlorine dosage during that time period, 2.28 mg/L. Verified online chlorine analyzer 1.81 mg/L vs handheld 1.80mg/L. No further direction from health unit. A note placed near analyzer which states "Do Not Leave in Calibration Mode" and Low Free Chlorine Residual SOP updated to mention never leave analyzer in calibration mode following maintenance. Precautionary AWQI called into MOE SAC and HU. This is incident of non-compliance. Resolution submitted August 21, 2023.

7.0 Microbiological Testing Performed During the Reporting Period

Summary of Microbiological Data

Sample Type	No. of Samples	Range of *E. coli* Results *(min to max)*	Range of Total Coliform Results *(min to max)*	# of HPC Samples	Range of HPC Results *(min to max)*
Raw (River)	53	0 to 800	21 to 46000	0	N/A
Treated	53	0 to 0	0 to 0	52	0 to 6
Distribution	156	0 to 0	0 to 0	52	0 to 1100

Maximum Allowable Concentration (MAC) for *E. coli* = 0 Counts/100 mL
MAC for Total Coliforms = 0 Counts/100 mL
"<" denotes less than the laboratory's method detection limit.
***Please note one treated HPC sample was spoiled due to laboratory accident/error. Sampling occurred as per normal.**

Notes: One microbiological sample is collected and tested each week from the raw and treated water supply. A total of three microbiological samples are collected and tested each week from the Verner distribution system.

Refer to *Appendix A* for a monthly summary of microbiological test results.

8.0 Operational Testing Performed During the Reporting Period

Continuous Monitoring in the Treatment Process

Parameter	No. of Samples	Range of Results *(min to max)*	Unit of Measure
Filter #1 and #2 Combined Turbidity	8760	0.0 to 1.0	NTU
Free Chlorine	8760	0.48 to 3.61	mg/L

Notes: For continuous monitoring 8760 is used as the number of samples.

CT is the concentration of chlorine in the water times the time of contact that the chlorine has with the water. It is used to demonstrate the level of disinfection treatment in the water. CT calculations are performed for the Verner water plant if the free chlorine residual level drops below 0.25 mg/L to ensure primary disinfection for one log removal of viruses (Adenovirus) is achieved. The Water Treatment Plant is equipped with an automatic plant shutdown (LLP and HLP) at 0.25 mg/L, with no delay. At 0.80 mg/L after 300 seconds, alarm and HLP shutdown.

Effective backwash procedures, including filter to waste are in place to ensure that the effluent turbidity requirements are met all times. The plant is configured to shut down and creates a callout whenever turbidity reaches 1.0 NTU for 0 seconds. At 0.35 NTU after 800 seconds automatic backwashes are triggered.

Summary of Chlorine Residual Data in the Distribution System

Parameter	No. of Samples	Range of Results *(min to max)*	Unit of Measure	Standard
Free Chlorine	364	0.21 to 2.17	mg/L	0.05

Note: A total of seven operational checks for chlorine residual in the distribution system are collected each week. Four (4) samples are tested one day and three (3) on a second day. The sample sets are collected at least 48-hours apart and samples collected on the same day are from different locations.

Refer to *Appendix B* for a monthly summary of the above operational data.

Summary of Nitrate & Nitrite Data *(sampled at the water treatment plant)*

Date of Sample	Nitrate Result Value	Nitrite Result Value	Unit of Measure	Exceedance
January 23	0.143	< 0.003	mg/L	No
April 17	0.248	< 0.003	mg/L	No
July 24	0.028	< 0.003	mg/L	No
October 4	0.014	< 0.003	mg/L	No

Maximum Allowable Concentration (MAC) for Nitrate = 10 mg/L
MAC for Nitrite = 1 mg/L

Summary of Total Trihalomethane Data *(sampled in the distribution system)*

Date of Sample	Result Value	Unit of Measure	Running Average	Exceedance
January 23	46.0	ug/L	Q1 = 61.0	No
April 17	31.0		Q2 = 58.5	
July 24	131.0		Q3 = 68.25	
October 4	124.0		Q4 = 76.75	
November 3	101.0			
November 29	73.0			

Maximum Allowable Concentration (MAC) for Total Trihalomethanes (THMs) = 100 ug/L (Four Quarter Running Average)

Summary of Total Haloacetic Acids Data *(sampled in the distribution system)*

Date of Sample	Result Value	Unit of Measure	Running Average	Exceedance
January 23	45.0	ug/L	Q1 = 52.4	No
April 17	37.7		Q2 = 54.3	
July 24	102.0		Q3 = 61.63	
October 4	25.8		Q4 = 52.63	

Maximum Allowable Concentration (MAC) for Total Haloacetic Acids (HAAs) = 80 ug/L (Four Quarter Running Average)

Summary of Most Recent Lead Data

(Applicable to the following drinking water systems; large municipal residential systems, small, municipal residential systems, and non-municipal year-round residential systems)

The Verner Drinking Water System was eligible to follow the "Exemption from Plumbing Sampling" as described in section 15.1-5(9) and 15.1-5(10) of Schedule 15.1 of Ontario Regulation 170/03. The exemption applies to a drinking water system if, in two consecutive periods at reduced sampling, not more than 10% of all samples from plumbing exceed the maximum allowable concentration (MAC) of 10 ug/L for lead. As such, the system was required to test for total alkalinity, lead and pH in two distribution sample collected during the periods of December 15 to April 15 (winter period) and June 15 to October 15 (summer period). This testing is required in every 12-month period with lead testing in every third 12-month period. Two rounds of lead, alkalinity and pH testing carried out on February 7 and July 5. Results summarized in the table below.

Summary of Lead, pH & Alkalinity Data

Date of Sample	No. of Samples	Sample Location/ID	Field pH	**Lead** (mg/L)	**Alkalinity** (mg/L)
Feb. 7	1	B/O Telesphore	7.20	0.00003	51.2
Feb. 7	1	10401 Hwy 17 West	7.17	0.00031	50.3
Jul. 5	1	B/O Telesphore	7.22	0.00003	51.3
Jul. 5	1	B/O Hwy 64	7.24	0.00093	51.5

Most Recent Schedule 23 Inorganic Data Tested at the Water Treatment Plant

Parameter	Result Value	Unit of Measure	Standard	Exceedance
Antimony	<MDL 0.6	ug/L	6	No
Arsenic	0.3	ug/L	10	No
Barium	4.8	ug/L	1000	No
Boron	5.0	ug/L	5000	No
Cadmium	<MDL 0.003	ug/L	5	No
Chromium	0.26	ug/L	50	No
Mercury	<MDL 0.01	ug/L	1	No
Selenium	0.07	ug/L	50	No
Uranium	0.007	ug/L	20	No

Note: Sample required every 12 months (sample date = *January 23, 2023)*

Most Recent Schedule 24 Organic Data Tested at Water Treatment Plant

TREATED WATER	Sample Date (yyyy/mm/dd)	Sample Result	MAC	Number of Exceedances	
				MAC	1/2 MAC
Alachlor (ug/L) - TW	2023/01/23	<MDL 0.02	5.0	No	No
Atrazine + N-dealkylated metabolites (ug/L) -	2023/01/23	<MDL 0.01	5.0	No	No
Azinphos-methyl (ug/L) - TW	2023/01/23	<MDL 0.05	20.0	No	No
Benzene (ug/L) - TW	2023/01/23	<MDL 0.32	1.0	No	No
Benzo(a)pyrene (ug/L) - TW	2023/01/23	<MDL 0.004	0.01	No	No
Bromoxynil (ug/L) - TW	2023/01/23	<MDL 0.33	5.0	No	No
Carbaryl (ug/L) - TW	2023/01/23	<MDL 0.05	90.0	No	No
Carbofuran (ug/L) - TW	2023/01/23	<MDL 0.01	90.0	No	No
Carbon Tetrachloride (ug/L) - TW	2023/01/23	<MDL 0.17	2.0	No	No
Chlorpyrifos (ug/L) - TW	2023/01/23	<MDL 0.02	90.0	No	No
Diazinon (ug/L) - TW	2023/01/23	<MDL 0.02	20.0	No	No
Dicamba (ug/L) - TW	2023/01/23	<MDL 0.2	120.0	No	No
1,2-Dichlorobenzene (ug/L) - TW	2023/01/23	<MDL 0.41	200.0	No	No
1,4-Dichlorobenzene (ug/L) - TW	2023/01/23	<MDL 0.36	5.0	No	No
1,2-Dichloroethane (ug/L) - TW	2023/01/23	<MDL 0.35	5.0	No	No
1,1-Dichloroethylene (ug/L) - TW	2023/01/23	<MDL 0.33	14.0	No	No
Dichloromethane (Methylene Chloride) (ug/L	2023/01/23	<MDL 0.35	50.0	No	No
2,4-Dichlorophenol (ug/L) - TW	2023/01/23	<MDL 0.15	900.0	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D) (ug/L)	2023/01/23	<MDL 0.19	100.0	No	No
Diclofop-methyl (ug/L) - TW	2023/01/23	<MDL 0.4	9.0	No	No
Dimethoate (ug/L) - TW	2023/01/23	<MDL 0.06	20.0	No	No
Diquat (ug/L) - TW	2023/01/23	<MDL 1.0	70.0	No	No
Diuron (ug/L) - TW	2023/01/23	<MDL 0.03	150.0	No	No
Glyphosate (ug/L) - TW	2023/01/23	<MDL 1.0	280.0	No	No
Malathion (ug/L) - TW	2023/01/23	<MDL 0.02	190.0	No	No
Metolachlor (ug/L) - TW	2023/01/23	<MDL 0.01	50.0	No	No
Metribuzin (ug/L) - TW	2023/01/23	<MDL 0.02	80.0	No	No
Monochlorobenzene (Chlorobenzene) (ug/L) -	2023/01/23	<MDL 0.3	80.0	No	No
Paraquat (ug/L) - TW	2023/01/23	<MDL 1.0	10.0	No	No
PCB (ug/L) - TW	2023/01/23	<MDL 0.04	3.0	No	No
Pentachlorophenol (ug/L) - TW	2023/01/23	<MDL 0.15	60.0	No	No
Phorate (ug/L) - TW	2023/01/23	<MDL 0.01	2.0	No	No
Picloram (ug/L) - TW	2023/01/23	<MDL 1.0	190.0	No	No
Prometryne (ug/L) - TW	2023/01/23	<MDL 0.03	1.0	No	No
Simazine (ug/L) - TW	2023/01/23	<MDL 0.01	10.0	No	No
Terbufos (ug/L) - TW	2023/01/23	<MDL 0.01	1.0	No	No
Tetrachloroethylene (ug/L) - TW	2023/01/23	<MDL 0.35	10.0	No	No
2,3,4,6-Tetrachlorophenol (ug/L) - TW	2023/01/23	<MDL 0.2	100.0	No	No
Triallate (ug/L) - TW	2023/01/23	<MDL 0.01	230.0	No	No
Trichloroethylene (ug/L) - TW	2023/01/23	<MDL 0.44	5.0	No	No
2,4,6-Trichlorophenol (ug/L) - TW	2023/01/23	<MDL 0.25	5.0	No	No
2-methyl-4-chlorophenoxyacetic acid (MCPA) (	2023/01/23	<MDL 0.12	100.0	No	No
Trifluralin (ug/L) - TW	2023/01/23	<MDL 0.02	45.0	No	No
Vinyl Chloride (ug/L) - TW	2023/01/23	<MDL 0.17	1.0	No	No

Note: Sample required every 12 months (sample date = *January 23, 2023)*

Inorganic or Organic Test Results that Exceeded Half the Standard Prescribed in Schedule 2 of the Ontario Drinking Water Quality Standards.

No inorganic or organic parameter(s) listed in Schedule 23 and 24 of Ontario Regulation 170/03 exceeded half the standard found in Schedule 2 of the Ontario Drinking Water Standard (O. Reg. 169/03) during the reporting period.

Most Recent Sodium Data Sampled at the Water Treatment Plant

Date of Sample	No. of Samples	Result Value	Unit of Measure	Standard	Exceedance
January 23, 2023	1	25.0	mg/L	20	Yes
January 18, 2022	1	26.4			
January 18, 2021	1	24.1			
January 25, 2021 (resample)	1	22.6			

Note: Sample required every 60 months. Next sampling scheduled for January 2026. AWQI reported in 2021.

It is required that the local Medical Officer of Health be notified when the concentration exceeds 20 mg/L so that persons on sodium restricted diets can be notified by their physicians. The adverse sodium result reported to MOE SAC and the North Bay Parry Sound District Health Unit on January 22, 2021 as required under Schedule 16 of O. Reg. 170/03 (AWQI# 153445).

Most Recent Fluoride Data Sampled at the Water Treatment Plant

Date of Sample	No. of Samples	Result Value	Unit of Measure	Standard	Exceedance
January 23, 2023	1	<MDL 0.06	mg/L	1.5	No

Note: Sample required every 60 months. Next sampling scheduled for January 2028.

Summary of Additional Testing Performed in Accordance with a Legal Instrument.

1. Schedule C, Section 1.6 of Municipal Drinking Water Licence #202-101 requires the UV disinfection system to maintain a continuous pass-through UV dose of at least 40 millijoules per square centimeter (mJ/cm^2) which is equal to 12.7 watts per square meter (W/m^2) throughout the life span of the UV lamps. Refer to Appendix B.

   A primary disinfection system consisting of two (2) Trojan UV swift SC model B08 low pressure UV irradiation units, each rated at 1,320 m^3/d at 85% Ultra-Violet Light Transmittance (UVT) with design dose of 40 mJ/cm^2 complete with electrically actuated control valves to allow switchover between units, automatic on-line cleaning systems, and treatment-to-waste functionality. The standby reactor will be brought into service in the event that the duty reactor faults or fails to provide the required UV dosage of 40 mJ/square cm. If the duty reactor fails the following would occur:

   - the low lift and high lift pumps would shut off
   - the (failed) duty UV reactor's water inlet valve would close
   - an alarm would be generated and sent through the emergency call-out system to alert operators of the failure of the duty reactor
   - an operator would respond and manually get standby reactor online

   Table 4 of the licence also requires the following parameters related to the UV disinfection system to be continuously monitored and recorded every four (4) hours:

UV Intensity Measured continuously by the UV system. UV intensity is monitored by each individual unit's control module and should the light intensity of the unit fall outside the specified range, the unit will automatically shut down and a standby unit will be activated by the on call operator. Such an event will be recorded by the UV control system.

Flow Rate The maximum flow rate though each of the units is 12.2 to 12.8 L/s (see table 4 in Section 1.6 of Schedule C in the municipal drinking water licence #202-101) which is continuously measured by the raw water flow meter. Each UV unit is equipped with a flow control valve and an electronically activated water shut-off valve which will automatically close in the event of a UV equipment malfunction, loss of power or ceases to provide an appropriate level of disinfection.

UV Transmittance Under Section 7.0 of Schedule B in the Drinking Water Works Permit #202-201, it states that UVT shall be monitored monthly.

Lamp Status Monitored by each unit's control module. Should the lamp status fail, the unit will automatically shut down and a standby unit will be activated by an on call operator. Such an event will be recorded by the UV control system.