

Village of Avoca

Water Supply Emergency Plan

in compliance with The New York State Sanitary
Code, Part V, Section 1.33

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Part I

Introduction

A. Purpose and Objectives

Every community water system operates under the remote, but none-the-less, real possibility of a major emergency occurring, whether caused by a natural disaster (flood, hurricane, drought, etc) or man-made (water main breaks, bacterial contamination, vandalism, chemical overfeeds, terroristic threats, etc). Therefore, in accordance with the New York State Sanitary Code, Part V, Section 1.33-a, the Village of Avoca has developed this plan to be used in the event of a water supply emergency.

Our purpose in developing this plan is to reduce the number of decisions that must be made during a disaster or emergency conditions, by providing for the orderly initiation and implementation of predetermined remedial and restorative measures. This plan has been structured with the following objectives:

1. To provide continuous public health protection.
2. To provide an adequate supply of potable water under emergency operating conditions.
3. To assure the rapid and efficient return to normal operating conditions.
4. To provide effective public health information in the event of an emergency.
5. To identify system vulnerabilities and strengthen those areas.

B. Format

This Water Supply Emergency Plan is presented following the format of the New York State Sanitary Code, with each requirement set forth in Part V, 133-b, Items 1-11, addressed separately, with appropriate references to other sections noted.

C. Water System Description

To enable the reader to fully comprehend this plan, it is appropriate at this point to provide a description of the Village of Avoca Water System.

Our source of raw water supply consists of two wells, located in the Hees Park Complex (intersection of River Street and State Route 415 North). Well #1 is 54 feet deep and Well #2 is 62 feet deep. Each well has a 3 phase, 10hp submersible motor with capabilities of 140gpm. Through the use of valves either well can be isolated, taken off line, or serviced without the loss of water, even for extended periods of time if needed.

Observation wells are located near each well head for monitoring purposes. Water table levels are measured weekly and recorded in compliance with the Susquehanna River Basin Commission. Daily usage also must be recorded and submitted to the SRBC as requested.

The raw water is pumped into the purification building, (located at the end of the parking lot in Hees Park). In this building the raw water is treated with polyphosphates, to reduce iron and manganese content, and then is treated with chlorine for disinfection purposes. Also in this building is a master flow meter which records daily usage. Sodium Fluoride is also added, which is in a separate room inside this building. Various daily testing also takes place in this facility for chlorine residual, fluoride content, and weekly tests for iron and manganese.

Equipped in this facility is an alarm system which is programmed to notify all WTPO's and other personnel if alarm conditions are reached. For specific alarm lists see Appendix A.

The purification building and all equipment associated with the entire pumping system is backed up by a 50kw generator, automatically transferring power in the event of a failure or surges. The generator is serviced regularly by Cummins Northeast and is set on a timer to operate one hour per week.

After the treated water leaves the purification building, it enters a 24" diameter, 450 ft sequestering line, which gives proper contact time for the mixing of chemicals before entering the water system. Not included in the

original construction, but recently added, is a hydrant attached to this line for flushing purposes.

The Village of Avoca Water System was completed in the year 2000 and totally replaced century old pipes, service lines into residences and businesses, hydrants and surface water source contained in open reservoirs, New 8" PVC mains supply water to satisfy demand and remaining water is pumped to a 425,000 gallon tank, located off County Route 8, near the Avoca Central School. Normal operating pressure in our system is 68psi. Each individual service line has a pressure reducing valve originally set at 50psi.

At the tank site, solar powered telemetering is continuously relaying signals to the purification building on tank level changes.

More specific information on the Distribution System can be found at the Village of Avoca Street and Water Department (located behind the Avoca Fire Hall) and detailed maps of the System, including hydrant locations, valves, pressure, etc. are also available at this location and at the water purification building.

Extensive information on the facilities and operation of the Water Treatment Plant may be found by authorized personnel only at either, the Street and Water Department or at the Village of Avoca Office (3 Chase Street). Detailed blueprints and records are available, along with specific information about on site equipment and treatment processes. Also available are hydrant records, valve working records, piping locations, site plans, etc.

Part II

Water Supply Emergency Plan

New York State Sanitary Code, Part V, Section 1.33 (b-1)

(b) The Water Supply Emergency Plan shall include ... (1) "the development of procedures to notify consumers during all phases of a water supply emergency".

If a situation should occur within the Village of Avoca Water Supply System, which has been determined by the Chief Water Treatment Plant Operator to potentially threaten the quality of water supplied to consumers, they shall be informed of any possible adverse health effects and the steps they can take to minimize their risk. The Chief WTPO shall also inform the local NYS Department of Health Office of any situation, and any events determined to pose an "Acute Public Health hazard" shall warrant immediate consumer notification via the most expedient method (radio, television, hand delivered notices, sound tracks, etc).

The primary purpose of notification is to inform consumers of any potential adverse health effects related to drinking water being supplied to them and what steps consumers can take to minimize risks. Consumer notification should be tailored to the specific emergency situation. In the event of contamination or chemical overfeed again the most expedient method should be used.

The following items must be included in the notices, however, the order and emphasis will depend on the circumstances of each event.

1. Notice must provide a clear and readily understandable explanation of the emergency/violation. The notice must tell the public the nature of the event and should help them discern the seriousness of the situation.
2. The notice must include information about any potential adverse health effects.

3. The notice must contain information about population at risk. It must be made clear whether a particular segment of the population, such as infants, senior citizens, pregnant women, etc. are particularly susceptible to problems that result from the emergency/violation.
4. Notices must contain information about the steps being taken to correct the problem, and approximate date/time to resolve the problem. If the problem was already taken care of the consumers should be advised when it was corrected.
5. The notice must include information about any necessity to seek alternative water supplies or whether they are not needed.
6. Notices must include preventative measures that should be taken until the situation is corrected. For example, water with bacterial contamination may need to be boiled before consumption.
7. Notices must be clear and conspicuous. Posters must be large and placed in locations where the public will see them.
8. Notices must not contain technical language.
9. Notices must not contain unduly small print.
10. Notices must include a phone number of someone to contact about the situation for additional information. The specific times the phone will be answered should also be posted.

For an example of an actual consumer notification – see Appendix B

New York State sanitary Code, Part V, Section 1.33 (b-2)

(b) The Water Supply emergency Plan shall include... (2) “the development of criteria and procedures for determining and the subsequent reporting of critical water levels or safe yield of the source or sources of water”.

Through constant monitoring of observation wells located near source wells and one additional observation well, draw-down has been very minimal, even during dry conditions. Observation wells are also checked weekly and recorded for SRBC as requested. Safe operating levels have been maintained even through extreme pumping.

Should an incident arise concerning quality or quantity of water that affects daily operation, the Chief WTPO shall notify NYS Department of Health local office and update continually on the status of affected well.

Should well maintenance be needed or required, well contractors will be on site with equipment within 72 hours. NYS DOH shall also be notified by the Chief WTPO of well status.

The Village of Avoca water storage tank will supply entire system for 4-5 days without restrictions, providing there are no major fire emergencies.

New York State Sanitary Code, Part V, Section 1.33 (b-3)

(b) The Water Supply Emergency plan shall include ... (3) "the identification of existing and future sources of water available during normal non-emergency and water supply emergency conditions".

Well #2 is our primary well. Well #1 is used for backup or emergencies. Daily recordings of well usage and gallons per day are kept in the water purification building. Each well will pump approximately 130gpm if used individually and if both pumps are required, either manually or automatically, 205gpm can be attained. Note: alarm activates when both pumps are required.

The Village of Avoca Water System is pre-connected to a 50kw generator (natural gas) and will switch over automatically in the event of a power failure. System is also surge protected and will switch over to generator if spikes or surges are detected. Generator will also switch back to utility power after uninterrupted electric is on for several minutes. Note: Alarm will activate to notify personnel in the event of electric interruption/generator running condition. WTPO should respond to water purification building to check operation.

New York State Sanitary Code, Part V, Section 1.33 (b-4)

(b) The Water Supply Emergency Plan shall include ... (4) "the identification of all available water storage. Available water storage includes source, transmission and distribution system storage".

The Village of Avoca Water System has an above ground circular water storage tank for treated water. At capacity the tank will hold 425,000 gallons (53 ft to overflow pipe). The tank site (off County Route 8) is easily accessible and water levels are monitored by telemetering. The tank level during summer months usually decreases and refills 8 feet per day insuring adequate water supply if emergency or fire flow is required. Typically 4-5 days of reserve capacity without restrictions is in the storage tank. The distribution system itself contains the following:

24" - 10,617 gallons

12" - 2,084 gallons

8" - 75,844 gallons

6" - 2,682 gallons

4" - 536 gallons

91,763 gallons (distribution)

The total number of gallons in our system is approximately 517,000.

New York State Sanitary Code, Part V, Section 1.33 (b-6)

(b) The Water Supply Emergency Plan shall include ... (6) "the development of a specific action plan outlining all the steps to be carried out, taken, or followed during a water supply emergency, including state notification, emergency notification rosters of key water supply personnel with current telephone numbers (both business and home), and follow up corrective action to minimize the recurrence of an emergency".

Should the Village of Avoca Water System have a situation develop which would cause the system to function outside the normal accepted range of operating conditions the situation must be addressed.

The severity of the situation would dictate which key personnel would be notified, but any situation will warrant Department of Health notification for further instruction/advice. Should the Chief Water Treatment Plant Operator decide that a violation or emergency exists, key personnel would be notified. For contact list see Appendix C.

Should notification of key personnel be needed, a detailed description of the situation and potential impact should be discussed, along with the estimated return to normal conditions and follow up corrective action to prevent recurrence.

New York State Sanitary Code, Part V, Section 1.33 (b-7)

(b) The Water Supply Emergency Plan shall include ...(7) "the identification and implementation of procedures of water conservation and water use restrictions to be put in place during a water supply emergency".

From time to time, due to low water table, lack of rainfall, or maintenance problems it may become necessary to restrict water use, either partially or totally, to essential use only. The following water restriction conditions are established to inform the public of the type of restriction imposed in accordance with each condition number. The notice of restriction will be announced by any or all of the following methods:

- A. Signs posted conspicuously within the village business district
- B. Bath and Hornell stations
- C. Hand delivered notices or fliers.

As taken from the Village of Avoca Water Rules and Regulations Local law #2 of 2012 "no water shall be used from the village water system for the use listed under each condition noted below".

- Level #1 Watering lawns
 Washing vehicles
 Filling swimming pools
 Special permitted fire hydrant use
- Level #2 Same as Level #1 plus,
 Watering gardens
- Level #3 Same as Level #2 plus,
 Water use restricted to only essential in-home and
 business use
- Level #4 Boil all water prior to consumption

In the event any consumer/business does not comply with restrictions a verbal warning will follow. Any additional disregard to restrictions will result in water being shut off to violator(s).

New York Sanitary Code, Part V, Section 1.33 (b-8)

(b) The Water Supply Emergency Plan shall include ... (8) "the identification of and the procedures for prioritization of potable water use during a water supply emergency".

Should the Village of Avoca Water System develop a situation in which the water supply is unusable for consumption for any reason users/institutions should be contacted immediately in addition to the most expedient means of public notification. For listings see Appendix D.

New York Sanitary Code, Part V, Section 1.33 (b-9)

(b) The water Supply Emergency Plan shall include ... (9) "the identification and availability of emergency equipment needed during a water supply emergency".

Depending on the severity and longevity of the emergency the Steuben County Office of Emergency Services can assist in locating various pumps

or portable tankers, if necessary. (607-664-2700) The Department of Health can also assist in locating the necessary equipment.

The following companies can also deliver large quantities of treated water in sanitized tankers, if needed:

John Ferris Trucking Company
Bath, NY 14810
(607) 776-1010

Pollio Dairy Products
Campbell, NY
(607) 527-4584

The Village of Avoca is a member of the American Water Works Association (AWWA), which has initiated the NYWARN (New York Water Agency Response Network) to assist members in the event of any emergency to public water supplies.

The Village of Avoca is also a member of the New York Rural Water Association (NYRWA), which provides technical support through use of their circuit riders. Our Western NY Representative is currently Dan Tousley.

Should any piping, fittings, etc., be needed, Blair Supply (Exit 1, Avoca) (607) 566-2214, can provide 24 hour emergency service.

Should extra manpower/equipment be needed, Bath Electric, Gas and Water, will be available on an as needed basis (607)776-3121.

New York Sanitary Code, Part V, Section 1.33 (b-10)

(b) The Water Supply Emergency Plan shall include ...(10) "the development of criteria and procedures for determining and the subsequent reporting of the system's capacity and ability to meet peak water demands and fire flow conditions concurrently".

The Village of Avoca Water System currently disinfects 60-75 thousand gallons per day for consumer usage. Should any restrictions need to be put

APPENDIX A

Alarm System Conditions

1. Tank low battery
2. Tank high level
3. Tank low level
4. Radio control fail
5. Pump 1 run-status
6. Pump 2 run- status
7. Pump 1 fail
8. Pump 2 fail
9. Lag pump on (back up pump)
10. Low pump flow
11. Generator operating
12. Illegal entry
13. Chlorine tank low level (day tank)
14. Building temperature low
15. Fluoride tank low level (day tank)
16. Sequestering tank low level (day tank)

APPENDIX C

Call List of Key Personnel

- | | |
|--|---|
| 1. Harold W. Longwell III
Chief WTPO
Work (607) 566-2475
Cell (607)769-8012 | 7. C. Ron Harmon
Town Supervisor
Home (607-776-6748
Cell (607)329-3474 |
| 2. Tony Comstock
Assistant WTPO
Work (607)566-2475
Cell (607) 329-2370 | 8. Kim Jackson
Town Clerk
Work (607) 566-2152
Cell (607)377-2241 |
| 3. Leann Wightman
Village Clerk
Work (607)566-8511
Cell (607)435-9344 | 9. Brian Mattoon
Disaster Coordinator
Cell (607)661-3615 |
| 4. NYS Health Department
Hornell Office
Thomas Klaseus
Work (607)324-8371 | 10. Avoca Central School
(607)566-2222 |
| 5. Michael Robbins
Village Mayor
Cell (607)769-1724 | 11. WVIN Radio
(607)776-3326 |
| 6. Randy Hammond
Fire Chief
Cell(607)661-0138 | 12. WCIK Radio
(607)776-4151 |
| | 13. WETM TV
General (607)733-5518
Fax (607)734-1176 |