UNINTERRUPTED SYSTEM SERVICE PLAN (USSP) WORD VERSION (a)

Pennsylvania's Community Water System (CWS) sources and treatment facilities are susceptible to emergency situations resulting from both natural and man-made disasters. Examples of emergencies include tropical storms, flooding, high winds, ice, snow, industrial chemical plant runoff, pipeline ruptures, and transportation corridor spills. Section 109.708 (a) – (d)[1] focuses on ensuring the reliability of service provided to all consumers by requiring the development of a feasible plan to consistently supply an adequate quantity of safe and potable water during emergency situations. A continuous supply of safe and potable water is one that meets all applicable MCLs, MRDLs and treatment techniques specified in § 109.202 (relating to State MCLs, MRDLs and treatment technique requirements) and is sufficient to maintain system pressure specified in § 109.607 (relating to pressures) throughout the distribution system. The Department recognizes that it is especially challenging to maintain uninterrupted system service during extreme and prolonged emergency events, and circumstances may arise that are outside of the control of the CWS.

Developing a Plan:

CWSs should focus on developing a feasible plan for the most likely emergency events historically experienced by that water system. A feasible plan contains SOPs and supporting details which demonstrate the following:

1. Initial switchover to auxiliary power and/or implementation of alternate provisions **before** water quantity/quality is negatively impacted.
2. The combination of auxiliary power and/or alternate provisions will supply a quantity of water **equal to** average daily demand to **all** pressure zones throughout the distribution system.
3. The combination of critical facilities should be operated in a manner that maintains adequate water quantity and quality for **at least the duration of** the most likely emergency events historically experienced at that water system.

DEP USSP Form:

Section 109.708(a) specifies that this Uninterrupted System Service Plan (USSP) Form must be used to develop this important plan. This version of the USSP Form is a Word document with "form fields", designated as "a". Small water systems, serving 3,300 or fewer customers, will likely find this version easiest to use. This Word document version will likely work best for systems with a small number of critical facilities which provide water to one pressure zone. Please note that an Excel-based USSP Form, is also available. The Excel based version, designated as "b" may be the best option for water systems with multiple pressure zones or a large number of critical facilities. Overall, water suppliers must select and complete **either** the Word or Excel version of the USSP; but, are free to choose which version they prefer. Water suppliers who already have detailed information within their updated Emergency Response Plan (ERP) that specifically correlates with a particular section of the USSP can reference that specific section of their ERP when completing the corresponding section of the USSP. In these instances, water suppliers should specify in their completed USSP the sections and page numbers referenced within the ERP (e.g *Section 5-1, Page 2*). This reference approach would be especially useful for detailed SOPs which have already been created and recently updated. In those instances, water suppliers would NOT be expected to retype each SOP within the USSP form field. To minimize the reporting burden and for maintaining security of sensitive information, suppliers are not required to submit the completed USSP to the Department; rather, this information should be incorporated into existing Emergency Response Plans as an attachment and kept onsite for Department review upon request.

Certification Form Submission:

Water suppliers are required to submit the accompanying certification form, provided by the Department, which verifies completion of the USSP. As per § 109.708(c), if the completed USSP identifies that deficiencies exist which prevent a continuous supply of safe and potable water, and those applicable deficiencies have not been corrected by the deadlines specified in § 109.708(a), then a detailed corrective action plan and corresponding completion date schedule must be submitted to the Department within 6 months after the dates specified in § 109.708(a)(1) – (3). A Deficiency Assessment, which evaluates the three primary elements of a feasible plan, is provided for water supplier completion as Section III of the USSP (please see page 10). Proposed corrective action schedules for each deficiency should be commensurate with the complexity of associated corrective actions. Once deficiencies are corrected, USSPs should be updated to document the associated improvements and SOPs.

[1] Section numbers in this document and the attached forms refer to sections in 25 Pa. Code Chapter 109.

I. General Information

PWS Name:	**PWSID #:**
Critical Facility Name:	**Critical Facility Capacity:** MGD
Critical Facility Description:	**Average Daily Demand:** MGD
Critical Facility Address:	**Available Finished Storage:** MG
Completed By (Name):	**Hours of Finished Storage:**
Date Completed:	**Date(s) Updated:**
Power Required for Critical Facility Operation (KWH):	**Distribution Sys Pressure Zone:**

II. Plan to Provide Uninterrupted System Service

Please complete all of the following sections based on which provisions your CWS is prepared to utilize to provide an adequate quantity and quality of water during emergency situations. Systems are encouraged to be prepared to utilize as many provisions as possible to maximize their capability to provide uninterrupted system service for each critical operational facility. It is necessary to carefully consider both the duration of time needed to switch over to a particular system service option as well as the efficacy of each option to provide an adequate quantity of safe and potable water. Developing detailed Standard Operating Procedures (SOPs) for utilizing each alternate is critical to insuring efficient and effective implementation during emergency situations. When determining hours of operation or adequacy of finished water storage, systems should consider finished water volumes necessary to maintain adequate operating pressures throughout all portions of the distribution system. A separate template should be completed for each critical facility. Water systems may also choose to complete one template for each pressure zone that includes all the critical facilities the PWS will utilize to provide uninterrupted system service within that pressure zone. The Excel version of this form is likely more efficient for systems with multiple pressure zones. For the purposes of this template, "critical facility" is defined as any facility necessary to supply an adequate quantity and quality of water (e.g. water treatment plants, finished water storage tanks, booster chlorination facilities, interconnections, etc.). "kWh" is used as the abbreviation for Kilowatt Hours.

(A) Auxiliary Power	**Connection to at least two independent power feeds from separate substations**
Description of Independent Power Feed	**SOP to Utilize Independent Power Feed**
Is each independent power feed capable of supplying 100% of needed power? ☐ Yes ☐ No **If "NO", please identify percent (%) of power needs and kWh supplied by each**: % kWh	
Production capacity provided via this auxiliary power: MGD	
Amount of time needed to switch over to this auxiliary power option: hours	
Date this auxiliary power was last tested:	
Critical internal CWS staff needed to utilize this option:	
Critical external staff needed to utilize this option: **24/7 phone numbers for all critical staff:** 1. **Name and Number:** 2. **Name and Number:** 3. **Name and Number:**	

(B) Auxiliary Power	On-site auxiliary power sources – permanent generators

Description of Permanent Generator	SOP to Utilize Permanent Generator

What percentage of critical facility power needs can be met by generator? **%** kWh
Production capacity provided via this generator: MGD
Estimated duration of generator operation before refueling is required: hours
Hours generator can be operated before basic service required (fuel filter change, etc.):
Amount of time needed to switch over to this auxiliary power option: hours
Date this auxiliary power was last tested:
Briefly describe testing plan to ensure generator will be operational when needed:
Critical internal CWS staff needed to utilize this option:
Critical external staff needed to utilize this option: **24/7 phone numbers for all critical staff:** 1. **Name and Number:** 2. **Name and Number:** 3. **Name and Number:**

(C) Auxiliary Power	Off-site auxiliary power sources – reserved access to portable generators (PaWARN, Portable, or Rental)

Description of Portable Generator	SOP to Utilize Portable Generator

What percentage of critical facility power needs can be met by generator?	%	kWh
Production capacity provided via this generator:	MGD	
Estimated duration of generator operation before refueling is required:	hours	
Duration generator can be operated before basic service required (fuel filter change, etc.):		hours
Amount of time needed to transport / setup this auxiliary power option:	hours	
Date this auxiliary power rental agreement was established:		
Date this auxiliary power rental agreement was last updated:		
Entity who owns / will supply the auxiliary power rental equipment:		
Critical internal CWS staff needed to utilize this option:		
Critical external staff needed to utilize this option:		

What efforts were made to help insure that during an area wide emergency your system will be a priority to obtain this portable generator before another user (e.g. rental contract)?

24/7 phone numbers for all critical staff:

1. **Name and Number:**
2. **Name and Number:**
3. **Name and Number:**

(D) Alternate Provisions	Gravity-fed* finished water storage capacity (*does NOT require auxiliary power during power outage)

Description of Finished Water Storage	SOP to Utilize Finished Water Storage

Volume of available finished water provided via this storage tank (consider normal operating ranges and lowest pressure zones): MGD

Hours of finished water supply provided by this storage tank: Hours

Are all pressure zones able to receive this supply during power outage?

Amount of time needed to switch over (valves) to this alternate provision: Hours

Date this finished water storage capacity was last relied upon during an emergency:

Critical internal CWS staff needed to utilize this option:

Critical external staff needed to utilize this option:

24/7 phone numbers for all critical staff:

1. **Name and Number:**
2. **Name and Number:**
3. **Name and Number:**

(E) Alternate Provisions	Pumped* finished water storage capacity (*requires auxiliary power during outage)

Description of Finished Water Storage	SOP to Utilize Finished Water Storage

Volume of available finished water provided via this storage tank (consider normal operating ranges and lowest pressure zones): MGD

Hours of finished water supply provided by this storage tank: Hours

Are all pressure zones able to receive this supply during power outage?

Amount of time needed to switch over (valves) to this alternate provision: Hours

Date this finished water storage capacity was last relied upon during an emergency:

Critical internal CWS staff needed to utilize this option:

Critical external staff needed to utilize this option:

Is onsite auxiliary power available which is sufficient to operate necessary pumps?

24/7 phone numbers for all critical staff:

1. **Name and Number:**
2. **Name and Number:**
3. **Name and Number:**

(F) Alternate Provision	Interconnection #1 with neighboring water system
Description of Interconnection Agreement	**SOP to Utilize Interconnection**
Flow rate provided via this interconnection: gpm	
Hours of operation provided by this interconnection: Hours	
Amount of time needed to switch over (valves) to this interconnection: Hours	
Are all pressure zones able to receive this supply during power outage?	
Date this interconnection was last tested under actual operating pressures:	
Please summarize the testing plan for this interconnection:	
Critical internal CWS staff needed to utilize this interconnection:	
Critical external staff needed to utilize this interconnection: **24/7 phone numbers for all critical staff:** 1. **Name and Number:** 2. **Name and Number:** 3. **Name and Number:**	

(G) Alternate Provision	Interconnection #2 with neighboring water system
Description of Interconnection Agreement	**SOP to Utilize Interconnection**
Flow rate provided via this interconnection: gpm	
Hours of operation provided by this interconnection: Hours	
Amount of time needed to switch over (valves) to this interconnection: Hours	
Are all pressure zones able to receive this supply during power outage?	
Date this interconnection was last tested under actual operating pressures:	
Please summarize the testing plan for this interconnection:	
Critical internal CWS staff needed to utilize this interconnection:	
Critical external staff needed to utilize this interconnection: **24/7 phone numbers for all critical staff:** 1. **Name and Number:** 2. **Name and Number:** 3. **Name and Number:**	

(H) Alternate Provision	**"Other" – CWS should include any *other* alternate system specific provision(s) they have identified as valuable to maintaining uninterrupted system service**

Description of Alternate Provision	SOP to Utilize Alternate Provision

Production capacity provided via this option: MGD
Hours of operation provided by this option: Hours
Amount of time needed to switch over to this option: Hours
Date this option was last tested:
Critical internal CWS staff needed to utilize this option:
Critical external staff needed to utilize this option: **24/7 phone numbers for all critical staff:** 1. **Name and Number:** 2. **Name and Number:** 3. **Name and Number:**

III. USSP Form Deficiency Assessment and Certification of Completion

After completing sections I and II of this USSP form, all applicable system personnel should meet to evaluate how all auxiliary power and alternate provision options will be utilized in combination to provide uninterrupted system service to throughout the distribution system. Ultimately, this group of personnel will need to reach a consensus regarding whether the overall USSP is considered adequate to provide uninterrupted system service or identify if deficiencies exist. The following Deficiency Assessment should be completed and considered for all critical facilities. When completing the deficiency assessment, systems may find it most efficient to group and evaluated critical facilities by pressure zone:

USSP Plan – Deficiency Assessment	
1a.) Hours needed to switch over to auxiliary power:	**1c.) Hours gravity-fed finished water storage available:**
1b.) Hours needed to implement alternate provisions:	
Deficiency Assessment Question #1: Are 1a and 1b < 1c?	
2a.) Total MGD provided via auxiliary power:	**2c.) Average daily demand:** MGD
2b.) Total MGD provided via alternate provisions:	
Deficiency Assessment Question #2: Is 2a + 2b ≥ 2c?	
3a.) Hours of consecutive operation of critical facilities provided via implementation of completed USSP:	**3b.) Duration of previous emergency events at this water system?** Hours
Deficiency Assessment Question #3: Is 3a ≥ 3b?	
If you answered "No" to any of the above three Deficiency Assessment Questions, the USSP plan is considered to contain deficiencies.	
Completed By (Name):	
Date Completed:	**Date(s) Updated:**

After completing the above Deficiency Assessment, the corresponding USSP Certification Form must be submitted to the Department by the dates specified in § 109.708(a)(1)-(3):

(1) By August 19, 2019, for systems serving 3,300 or fewer persons.
(2) By August 17, 2020, for systems serving 3,301—10,000 persons.
(3) By August 17, 2021, for systems serving greater than 10,000 persons.

If system personnel have identified that deficiencies exist within the completed USSP, and those applicable deficiencies have not been corrected by the deadlines specified in § 109.708 (a), then a detailed corrective action plan and corresponding completion date schedule must be submitted to the Department within 6 months after the dates specified in § 109.708(a)(1)–(3). More specifically, a detailed corrective action plan and corresponding completion date schedule must be submitted to the Department by:

(1) By February 19, 2020, for systems serving 3,300 or fewer persons.
(2) By February 17, 2021, for systems serving 3,301-10,000 persons.
(3) By February 17, 2022, for systems serving greater than 10,000 persons.

Deficiencies identified should be summarized on the USSP Certification Form.

IV. Training, Review and Update

The following staff have been trained on implementation of the USSP:

- **Name / Training Date**

During the training, the SOPs to implement the USSP were reviewed and updated as necessary, along with the overall USSP.

Next scheduled training: Date:
Next scheduled USSP update: Date:

USSP Completed by Signature(s):	**Date:**
USSP Reviewed by Signature(s):	**Date:**