



PENDER COUNTY UTILITIES, NORTH CAROLINA

WATER SHORTAGE RESPONSE PLAN

The purpose of the Water Shortage Response Plan is to provide guidance to Public Utilities staff, County Administration, and the customers of Pender County Utilities during periods of drought and other events that result in a shortage of potable water or when existing water supply sources are inadequate to meet current demands for potable water. This plan applies only to users of the Pender County Utilities Water System and its Districts. Variations of this plan may be implemented as needed, depending on water system conditions.

I. Authorization

Under the County's Water and Sewer Ordinance, Article X, the Pender County Utilities Director or their authorized representative is authorized to declare a water shortage. Depending on the severity of the shortage, voluntary (Stage 1) and mandatory (Stage 2 and Stage 3) staged water use restrictions as described in this plan shall be imposed upon all water customers. This declaration shall be made after consultation with the Public Utilities staff and County Administration.

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II. Notification

The following notification methods will be used to inform water system employees and customers of a water shortage declaration: employee e-mail announcements, local media outlets, notices at municipal buildings, and notices in water bills. Required water shortage response measures will also be communicated through *The Pender Post/Voice*, and Press Releases to local news, radio, and cable stations. Declaration of emergency water restrictions or water rationing will be communicated to all customers by telephone through the County's Text/Call Notification System and the County's NIXLE – Emergency Notification System.

III. Shortage Response Triggers/Action Levels

Three levels of water shortage responses are outlined in the table below. The three levels of water shortage responses are: voluntary reductions/water conservation alert, mandatory reductions, and emergency reductions. A detailed description of each response level and corresponding water reduction measures shown below.

System Supply Type	STAGE 1 VOLUNTARY LEVEL	STAGE 2 MANDATORY LEVEL	STAGE 3 EMERGENCY LEVEL
	Conditions indicate potential for water supply shortages; voluntary conservation is encouraged.	Water supplies are measurably lower than the seasonal norm and are diminishing. Mandatory restriction measures are imposed.	The system is experiencing a water shortage; drinking water supply is clearly inadequate and more stringent restriction measures are imposed.
Finished Water Elevated and Ground Storage	Finished water storage less than <u>3 million gallons</u> in the distribution system or when there are three (3) consecutive days when water demand exceeds eighty percent (80%) of the total water production capacity. Water production capacity can vary depending on raw water conditions or availability.	Finished water storage less than 2 million gallons in the distribution system or when there are two (2) consecutive days when water demand exceeds ninety percent (90%) of the total water production capacity. Water production capacity can vary depending on raw water conditions or availability.	Finished water storage less than 1 million gallons in the distribution system or when there is one (1) day when water demand exceeds one hundred percent (100%) of the total water production capacity. Water production capacity can vary depending on raw water conditions or availability.

Stage 1, Voluntary Reductions/Water Conservation Alert: A Stage 1 water shortage may be declared in the event of an immediate water shortage, as so declared by state and/or local officials, when finished water storage is less than three (3) million gallons in the distribution system, or there are three (3) consecutive days when water demand exceeds eighty percent (80%) of the total water production. Water production capacity shall be defined as the maximum volume of water that meets or exceeds state and federal drinking water standards that the water treatment plant can produce during a twenty-four (24) hour period, plus any additional available sources. Water production capacity can vary depending on system component reliability and/or raw water conditions or availability.

Stage 2, Mandatory Water Shortage Warning: A Stage 2 water shortage emergency may be declared in the event of an immediate water shortage, as so declared by state and/or local officials, when finished water storage is less than two (2) million gallons in the distribution system, or there are two (2) consecutive days when water demand exceeds ninety percent (90%) of the total water production. Water production capacity shall be defined as the maximum volume of water that meets or exceeds state and federal drinking water standards that the water treatment plant can produce during a twenty-four (24) hour period, plus any additional available sources. Water production capacity can vary depending on system component reliability and/or raw water conditions or availability.

Stage 3, Emergency Water Shortage Danger: A Stage 3 water shortage emergency may be declared in the event of an immediate water shortage, as so declared by state and/or local officials, when finished water storage is less than one (1) million gallons in the distribution system, or there is one (1) day when water demand exceeds one hundred percent (100%) of the total water production. Water production capacity shall be defined as the maximum volume of water that meets or exceeds state and federal drinking water standards that the water treatment plant can produce during a twenty-four (24) hour period, plus any additional available sources. Water production capacity can vary depending on system component reliability and/or raw water conditions or availability.

IV. Levels of Response

Stage 1, Voluntary Reductions/Water Conservation Alert: All water users will be asked to reduce their normal water use by 10%. Customer education and outreach programs will encourage water conservation and efficiency measures including irrigating landscapes a maximum of one inch per week; preventing water waste, runoff and watering impervious surfaces; watering plants deeply to encourage root growth; washing only full loads in clothes and dishwashers; using spring-loaded nozzles on garden hoses; and identifying and repairing all water leaks.

Stage 2, Mandatory Water Shortage: All customers are expected to reduce their water use by 20% in comparison to their previous month's water bill. In addition to continuing to encourage all voluntary reduction actions, the following restrictions apply: irrigation is limited to a half inch per week between 8PM and 8AM; outdoor use of drinking water for washing impervious surfaces is prohibited; and all testing and training purposes requiring drinking water (e.g. fire protection) will be limited. Filling pools is prohibited, except for the minimal amount necessary to maintain pool's filtration system.

Stage 3, Emergency Water Shortage Danger: Customers must continue all actions from previous stages and further reduce their water use by 25% compared to their previous month's water bill. All non-essential uses of drinking water (ornamental fountains, outdoor turf and landscape watering, impervious surface washing, vehicle washing, and construction site dust control) are banned. A ban on all use of drinking water except to protect public health and safety is implemented. Filling of pools is prohibited, except for the minimal amount necessary to maintain pool's filtration system.

V. Enforcement

The provisions of the water shortage response plan will be enforced by Pender County Utilities staff in accordance with the Pender County Utilities Ordinance. Citations are assessed according to the following schedule depending on the number of prior violations and current level of water shortage.

Water Shortage Level	First Violation	Second Violation	Third Violation
Voluntary Reductions	N/A	N/A	N/A
Mandatory Water Shortage (Stages 2)	Warning	\$250	Discontinuation of Service
Emergency Water Shortage Danger (Stage 3)	\$250	Discontinuation of Service	Discontinuation of Service

VI. Variance Protocols

Applications for water use variance requests are available from the office of Pender County Utilities. All applications must be submitted to Pender County Utilities for review by the Director or his designee. A decision to approve or deny individual variance requests will be determined within two weeks of submittal after careful consideration of the following criteria: impact on water demand, expected duration, alternative source options, social and economic importance, purpose (i.e., necessary use of drinking water) and the prevention of structural damage.

VII. Effectiveness

The effectiveness of the Pender County Utilities Water Shortage Response Plan will be determined by comparing the stated water conservation goals with observed water use reduction data. Other factors to be considered include frequency of plan activation, any problem periods without activation, total number of violation citations, desired reductions attained, and evaluation of demand reductions compared to the previous year's seasonal data.

VIII. Revision

The water shortage response plan will be reviewed and revised as needed to adapt to new circumstances affecting water supply and demand, following implementation of emergency restrictions, and at a minimum of every five years in conjunction with the updating of our Local Water Supply Plan.

Revision		Reason For Revision	Description of Revision
Date	Number		
6/27/2022	1	Annual Update	Updated Directors Information.
3/27/2023	2	Annual Update	II. Notification added new text/call notification system and Under IV. Stage 2 added pool information.
5/25/2023	3	Annual Update for 5year update	Intro: Additional information II. New emergency system III – V Changed some verbiage.