

**Water Shortage Response Plan
Reviewer Guidelines
October 2008**

Water shortage response plans establish authority for declaration of a water shortage, define different levels of water shortage severity, and outline appropriate responses for each level. According to the 2008 Drought Bill, all plans are considered approved once submitted until they are otherwise disapproved by the Division of Water Resources. The primary criteria for plan approval are derived from the rules governing Water Use During Drought and Other Water Emergencies (15A NCAC 02E .0600) which became effective in March 2007.

The Water Shortage Response Plan Review Approval Criteria checklist was developed to serve as a tool to objectively approve or disapprove plans according to established rules and laws. The intention is to indicate whether all approval criteria required are present in a submitted plan. If an approval criterion is present, the reviewer should place a check in the corresponding “Yes” column; if a criterion is absent from a plan, the reviewer should place a check in the “No” column. Additionally, an optional “Reviewer Comments” column exists for the reviewer to note any points of ambiguity. Criteria in shaded rows are not necessary for approval; however, all other rows must meet the outlined criteria, as indicated by a check in the “Yes” column, for plan approval.

For tracking purposes, the reviewer must fill in the Water System name, Public Water Supply identification number (PWSID #), water source (i.e. groundwater, run-of-river, reservoir, purchase or multiple source system), the reviewer’s name and the date on which each plan was reviewed in the top right corner of the Approval Criteria Checklist. Every listed criterion must be considered and checked as either: “Yes” (present) or “No” (absent). Based on these criteria, each plan must be either approved or disapproved. Incomplete plans must be disapproved.

Specific guidelines for each of the nine subsections of plan approval criteria are detailed below. Please remember, all criteria are required for plan approval unless otherwise indicated by gray shading.

1. Authority

Plans must clearly identify an individual with authority to implement water shortage response actions and provide the person's name, position title, and contact information. Although not required, water systems will also be asked to identify an alternate who has authority to declare a drinking water shortage and make decisions regarding implementation of the water shortage response plan in the absence of the official with primary responsibility. In either case, the individual named must have the authority to directly implement water shortage response measures based on conditions identified in the plan itself without requiring any other approval..

2. Notification

All water users and system employees must be notified whenever water shortage response protocols have been implemented or changed. Likewise, they must be notified of required response measures. Notification should be timely and appropriate for the shortage situation. For example, if a water line is broken and water shortage is imminent, a written letter sent by U.S. Mail would not be appropriate for notification purposes.

3. Levels of Response

A water shortage response plan must identify tiered levels of response actions that correspond to drinking water shortages of increasing severity. Specific measurements of available water supply, water demand and other water system conditions must be used to determine the severity of the water shortage and to trigger corresponding response actions. The appropriate measurements will vary based on the nature of the water system, the water source and other local conditions; examples include measures of usable water storage remaining and water demand as a percent of existing supply.. A minimum of three levels of water shortage severity are required (i.e. voluntary,

mandatory, and emergency levels); however, four levels are recommended (i.e. one voluntary, two mandatory, and one emergency level).

For each level of drinking water shortage severity, a corresponding set of incremental water shortage response measures are required. Plans must include voluntary, mandatory and emergency response protocols. Additionally, water rationing protocols are recommended for all water systems and may be referenced in an emergency response plan.

4. Triggers

Plans must identify specific measurements or conditions used to trigger each tier of water use reduction measures. Those measurements or conditions would then be used to initiate movement from more or less restrictive levels of drinking water use. Examples of suggested triggers are included below for different types of drinking water supply sources.

Suggested Triggers Types by Water Supply Source

Groundwater	Run-of-River	Reservoir	Purchase
Water levels	Stream flow (CFS)	Reservoir level (ft or percent)	Restrictions imposed by selling system
Pumping time	River Stage (ft msl)	Usable storage	Finished water storage
Finished water storage	Finished water storage	DMAC Advisory level	DMAC Advisory level
DMAC Advisory level	DMAC Advisory level		

The triggers identified above are all drought-related measures. The water shortage response plan should also identify measurements or conditions related to loss of water system function due to mechanical problems, loss of power, contamination or other factors.

5. Enforcement

Plans must identify enforcement measures to ensure compliance with the water use restrictions for each level of drinking water shortage. They should also identify the

responsible authority and the proposed ordinance, codes or regulations to oversee compliance.

6. Public Comment

A public review and comment period of the proposed water shortage response plan is required prior to final plan adoption.

7. Variance Protocols

Plans must set out the process for requesting a variance from water shortage response actions and identify the criteria by which variances will be evaluated for approval or disapproval.

8. Effectiveness

All plans must identify an evaluation method to demonstrate that drinking water use restrictions result in actual water savings. In order to effectively respond to water shortages, recommended methods should be able to quantify water savings within 30 days or less. For this purpose, specific water use reduction goals compared to data collected before, after, and during each level of water shortage provides an objective method for evaluating plan effectiveness.

9. Revision

Plans must specify when water shortage response plans will be reviewed and revised, including: revisions needed to adapt to new circumstances (e.g. new water sources, etc.), after implementation of any emergency restrictions, and at a minimum five year interval. An authority responsible for plan revision should be identified for accountability.