

**Water Shortage Response Plan  
Town of Granite Falls, North Carolina  
January 2010**

The procedures herein are written to reduce potable water demand and supplement existing drinking water supplies whenever they are in danger of being inadequate to meet customer needs.

Water shortages can be caused by external factors, such as an extended drought, or internal factors, such as a mechanical failure of the water system. These shortages can be localized or system/region wide. Conversely, a drought that affects the Catawba-Wateree Basin can affect everyone in the basin. The basin has a population of two million people and includes portions of over fourteen counties and two states.

**I. Authorization**

In most cases a response to drought caused water shortages for the Catawba basin will be initiated by Duke Energy of the Carolinas, the licensee for the Comprehensive Re-licensing Agreement.

The Granite Falls Town Manager will enact water shortage response provisions whenever the trigger conditions outlined in Section IV are met. In his or her absence, the Water Resources Director will assume this role.

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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: local news media, Town newsletters and the Connect Program (Town sponsored program that allows calls to each house within Town limits with important messages). Required water shortage response measures will be communicated through local news media, Town newsletters, the Connect Program, by posting on the Town's web site and by posting notices in all public buildings. Declaration of emergency water restrictions or water rationing will be communicated to all customers by telephone through use of the Connect Program.

### III. Levels of Response

Four levels of water shortage response are outlined in the table below. The four levels of water shortage response are: voluntary reductions, mandatory reductions I, II and III. A detailed description of each response level and corresponding water reduction measures follow below.

Stage	Response	Description
1	Voluntary Reductions	Water users are encouraged to reduce their water use and improve water use efficiency; however, no penalties apply for noncompliance. Water supply conditions indicate a potential for shortage.
2	Mandatory Reductions I	Water users must abide required water use reduction and efficiency measures; penalties apply for noncompliance. Water supply conditions are significantly lower than the seasonal norm and water shortage conditions are expected to persist.
3	Mandatory Reductions II	Same as in Stage 2
4	Mandatory Reductions III	Water supply conditions are substantially diminished and pose an imminent threat to human health or environmental integrity.

In Stage 1, Voluntary Reductions, the following voluntary water conservation practices shall be encouraged for public water system served by the Town:

- watering of lawns, ornamental plants and gardens shall be limited to that necessary for plant survival only;
- water only during off peak hours and a maximum of 1” per week (9:00 p.m.–4:00 a.m.);
- planting of new ornamental plants and seeding of lawns should be deferred until the water emergency situation no longer exists;
- household water should be re-utilized to the greatest extent possible;
- use of water for wash down of outside areas such as driveways or parking lots should be curtailed;
- faucets should not be left running while shaving, brushing teeth or washing dishes;
- the use of clothes and dishwashers should be limited if possible and the units should be operated with full loads when used;
- washing of cars or other vehicles should be held to a minimum and hoses should not be left running while washing vehicles;
- the use of flow restrictors and other water saving devices is encouraged;
- showers should be used for bathing and should be limited to four (4) or five (5) minutes;
- filling of pools shall be deferred or limited to hours between 9:00 p.m. and 4:00 a.m.;
- outside ornamental fountains used for advertising and non-essential purposes shall not be allowed.

In Stage 2, Mandatory Reductions I, the following mandatory water use restrictions shall be in effect for the public water system served by the Town:

- all voluntary practices listed above shall be mandatory unless stricter measures are indicated in this section;
- no lawn watering or irrigation is allowed;
- professional and commercial landscaping, nursery, and pressure washing businesses on the Town's water distribution system may operate using handheld hoses with spring-loaded nozzles;
- planting of new ornamental plants or seeding of lawns shall be deferred until the water emergency no longer exists;
- use of water for washing down of exterior areas, including but not limited to building, driveways, and/or parking lots, shall be prohibited unless the following requirements are met;
- flowers, shrubs and trees may be watered using hand-held hoses with spring loaded nozzles between the hours of 7:00 a.m. and 9:00 a.m. and 7:00 p.m. and 9:00 p.m.;
- public commercial washing facilities including those providing hand held washing nozzles may continue normal operation, with the facility owner/operator ensuring that waste of water does not occur;
- restaurants and other food serving establishments shall serve water only at the request of the patron(s);
- commercial, industrial and construction operations shall eliminate all possible waste of water;
- newly constructed or drained pools shall be filled only on Wednesday or Saturday with a permit obtained from the Water Resources Director.

In Stage 3, Mandatory Reductions II, the following mandatory water use restrictions shall be in effect for the public water system served by the Town:

- all practices listed in Stage 1 and 2 shall remain in effect unless stricter measures are indicated in this section;
- restaurants and other food serving establishments shall utilize single serving utensils and plates, and serve water only at the patron(s) request;
- any water customer or construction activities utilizing 5,000 or more gallons of water per day shall achieve mandatory reduction in daily water usage of 25%, 50%, or 75% through whatever means available, with the target reduction percentage determined by the severity of the water emergency, and shall be publicly announced as part of the emergency declaration;
- the Water Resources Director shall determine compliance with the daily usage reduction targets;
- variances to this restriction may be granted to designated public health facilities including but not limited to hospitals and nursing homes;
- car lots must request a variance to wash their stock of vehicles;
- do not seed, re-seed or start new lawns because only rainwater will be available if you receive water from the Catawba River Basin;
- drinking water taps or hydrant permits shall be issued or revoked at the discretion of the Town staff.

In Stage 4, Emergency Reductions, the following mandatory water use restrictions shall be in effect for the public water system served by the Town:

- all practices listed in Stage 1, 2, and 3 shall remain in effect unless stricter measures are indicated in this section;
- all use of water for purposes other than maintenance of public safety is prohibited;
- where the Town system is functional, daily per day residential water use shall not exceed 100 gallons at each metered location;
- where the Town system is not functional, emergency service vehicles shall be utilized to distribute water for household use at prearranged locations within the affected area and usage by individuals shall be limited to those amounts necessary to sustain life through drinking, food preparation and personal hygiene;
- water use by industrial and commercial customers may or may not be allowed, with this determination being made by the Town Manager after consultation with elected officials and Town staff, in order to assure that supplies are adequate to protect public health and sustain fire protection.

#### IV. Triggers

As mentioned previously a drought caused water shortage will result in a response from Duke Energy to notify all major water users of the drought conditions in the Catawba River Basin. Trigger points that demonstrate worsening hydrologic conditions will define various stages of drought response. A summary of the trigger points that Duke will be using is listed below.

#### Summary of Trigger Points

Stage	Storage Index		Drought Index (3 mo. Ave).		USGS Stream flow Gages
0	90% <SI<TSI		0 = DM		AVG. 85%
1	75%< SI<90% TSI	And	1 = DM	Or	AVG> 78%
2	57%< SI<75% TSI	And	2 = DM	Or	AVG> 65%
3	42%< SI<57% TSI	And	3 = DM	Or	AVG> 55%
4	SI = 42% TSI	And	4 = DM	Or	AVG> 40%

This information has been derived from the US drought Monitoring program, NC drought monitor, or stream gauges and ground water gauges as described in the Comprehensive Re-licensing Agreement (CRA). Appendix C of the CRA contains the Low Inflow Protocol (LIP), which is a product of the Drought Management Advisory

Group (DMAG). The DMAG is made up of affected Municipal Water Systems and Duke Power.

## V. Enforcement

The provisions of the water shortage response plan will be enforced by Town of Granite Falls Water Resources Director and police personnel. Violators may be reported to the Town Manager by phone at (828) 396-3131 or the e-mail contact listed on the town’s website. Citations are assessed according to the following schedule depending on the number of prior violations and current level of water shortage.

<b>Water Shortage Level</b>	<b>First Violation</b>	<b>Second Violation</b>	<b>Third Violation</b>
None	Warning	Warning	Warning
Voluntary Reductions	Warning	Warning	Warning
Mandatory Reductions (Stages 2, 3 and 4)	\$100 – residential \$500 – commercial	Discontinuation of Service	Discontinuation of Service

## VI. Public Comment

Customers will be given the opportunity to comment on the provisions of the water shortage response plan by contacting the Town Manager, the Water Resources Director or at any public meeting of the Town Council.

## VII. Variance Protocols

Each variance request will be evaluated and reviewed by the Water Resources Director for approval. The criteria used to decide if a variance will be granted are necessity of variance, length of variance, volume and number of hours per day and type of variance requested.

In order to qualify for a variance, a customer/user must apply in writing, supplying all necessary information. Once the variance is approved for a specific time period, the variance is sent back to the customer to be displayed on site. All variances expire on the noted expiration date or at the onset of Stage 3 mandatory emergency restrictions.

Variances are not needed for water use not restricted by this ordinance.

Violations of the terms of the variances will be treated as a violation of mandatory restrictions and all applicable fines will apply. In addition, the variances will become void at the time of the violation.

## **VIII. Effectiveness**

The effectiveness of the Granite Falls water shortage response plan will be determined in three (3) ways: by measuring the total gallons of water treated and comparing it to the average of last month and to the previous three years data; water readings of customers; and the Low Inflow Protocol (LIP).

## **IX. Revision**

The Drought Management Advisory Group meets or has a conference call on a weekly, bi-weekly or monthly basis, determined by the lake level, rainfalls, and groundwater conditions. Changes are outlined in the Low Inflow Protocol (LIP) approved by Duke Power and affected Municipal Water Systems along the Catawba River basin.

This Plan shall be reviewed every five years and after all implementations. The Town Manager may amend this plan as necessary to comply with state or federal law or upon advice of legal counsel.