

DRAFT

DRAFT

UNION COUNTY

POLICY FOR ALLOCATING WATER TREATMENT CAPACITY

DATE: JULY 20, 2009 (AMENDED AND RESTATED)

PREFACE

In February 2008, Union County's Board of Commissioners adopted a resolution that, among other requirements, tasked the County Manager and Public Works Department with developing a Water Allocation Policy. This resolution acknowledged that, at times, the Union County Water System's (UCWS) Peak Day Demand has exceeded available water treatment capacity. As a result, the opportunity to provide water service to new customers is limited. The Water Allocation Policy is intended to provide a short-term plan for the County as it seeks to continue to provide a high level of service to existing customers, and new water service connections for continued population and economic growth.

On October 20, 2008 a Water Allocation Policy was adopted by the Board of Commissioners and put into action by Union County Public Works (UCPW). Subsequently, changing economic conditions and a desire to maintain future water allocations within current, permitted, and contracted water treatment capacity led to the desire to revise the Water Allocation Policy. On January 20, 2009 the Board of Commissioners directed UCPW staff to stop applying for Water Permits under the previously adopted Water Allocation Policy (except for Government Facilities and Nonresidential Projects). On April 8, 2009 the Board of Commissioners directed County staff to draft revisions to the Water Allocation Policy to allow for new development, with a baseline of one-day per week outdoor irrigation for customers; and, to stop applying for all Water Permits.

During development of these revisions, it has now been determined that the number of residential lots with an existing Water Permit provides sufficient inventory for new residential construction until new water treatment capacity can be delivered, and that the limited remaining available water to be allocated should be provided to Nonresidential, Government Facilities, One Tap, and Self Help Projects.

This Policy seeks to document current water use by UCWS customers and quantify the amount of capacity that is available for system expansion. As presented herein, the short-term available capacity for new customers to the UCWS is a function of the type of water use restrictions implemented on the current customer base. In developing this Policy, the County has sought to:

- protect public health and safety,
- maintain a high level of service to existing water customers,
- be fair and equitable in allocation of future water service; and,
- minimize excursions of Peak Day Demands above current allocated capacity.

The Union County Public Works Department is actively pursuing additional water treatment capacity, and is currently in the planning, permitting, engineering design, and/or construction phase of numerous projects that are intended to secure additional water supply and delivery capacity to current and future residents of the County. However, until several of these projects are completed, it is necessary to have this Policy in place to establish guidelines for allocating water treatment capacity.

TABLE OF CONTENTS

	<u>PAGE</u>
1.0 Definitions	4
2.0 Recitals	6
3.0 Scope	9
4.0 Purpose	9
5.0 Effective Date	10
6.0 Water Allocations	10
7.0 Expiration of Existing Water Permits	12
8.0 Acceptance of New Engineering Plans and Water Permit Application Process	13
9.0 Notification Period for Omissions/Corrections	13
10.0 Directions to County Staff	13

List of Attachments

- Figure 1 - UCWS Service Area Map
- Figure 2 - UCWS Daily Water Demand from the CRWTP (5/07 – 6/09)
- Table 1 - Union County Water Allocation – Identified Future Development Projects

1.0 DEFINITIONS

Unless otherwise specified herein, or unless clearly required by context, the words and phrases defined below shall have the meaning indicated when used in this Policy.

- **Accessibility Letter** – refers to a letter issued by UCPW that describes the proximity of a proposed Development Project to existing UCWS water infrastructure and the requirements for obtaining water service.
- **Anson County Water Treatment Plant (ACWTP)** – refers to Anson County's water treatment facility. The ACWTP has a rated capacity of 16 MGD. Union County has a contracted capacity for 4 MGD from the ACWTP. However, current hydraulic system limitations restrict the available water capacity to approximately 2 MGD from the ACWTP. Union County Public Works has several ongoing projects to eliminate these hydraulic restrictions and make fully available the 4 MGD contract capacity.
- **Average Day Demand** – refers to the annual average daily water demand (estimated or actual) placed on a single connection, portion, or all of the UCWS.
- **Catawba River Water Treatment Plant (CRWTP)** – refers to the water treatment facility that is jointly owned by Union County and Lancaster. The CRWTP has a rated capacity of 36 million gallons per day (MGD). Union County has ownership rights to 50% of this capacity, or a total of 18 MGD.
- **County** – refers to Union County.
- **Development Project, or Project** – refers to an undertaking involving real property improvement, One Tap Projects, and Self Help Projects for which a new or expanded connection to the UCWS is requested.
- **Effective Date** – refers to the date when this Amended and Restated Policy was adopted by the Union County Board of Commissioners.

- **Government Facilities** – refers to facilities owned or operated by Union County, Union County Public Schools, or a municipality located within Union County, and facilities funded in whole or in part by Union County.
- **Lancaster** – refers to the Lancaster County Water and Sewer District.
- **Maximum Day (Max. Day or Peak Day) Capacity** – refers to the maximum day treatment capacity of a water treatment and distribution system. For the purposes of this Policy, the total Max. Day Capacity is 18 MGD. This value represents Union County's contracted supply from the CRWTP.
- **Maximum Day (Max. Day or Peak Day) Demand** – refers to the highest daily water demand placed on a single connection, portion, or all of the UCWS.
- **MGD** – is million gallons per day.
- **New Development Projects** – refers to all future Development Projects that are brought forward to Union County Public Works for review on or after August 12, 2008.
- **Nonresidential Development Projects** – refers to all Development Projects other than Residential Development Projects and Government Facilities Projects.
- **Notice Period** – refers to the public notification period during which UCPW requested owners of any Development Projects, or others, who had received documentation from the County regarding the availability of water service to a potential site or parcel to show evidence of the same. This correspondence may, but need not, be referred to as an Accessibility Letter. This notification period occurred between February 26, 2008 and March 27, 2008.
- **One Tap Projects** – refers to a Project where the owner of an existing parcel (as of October 20, 2008) requests a single residential tap by a service line from the UCWS. One Tap Projects shall include existing residences served by well.
- **Peak Day Demand** – see definition above for Maximum Day Demand.
- **Peaking Factor** – refers to the ratio of Maximum Day Demand to Average Day Demand.
- **Policy** – refers to this Amended and Restated Water Allocation Policy document.
- **Project** – has the same meaning as Development Project.
- **Residential Development Project** – refers to Development Projects for residences such as attached and detached single-family dwellings,

apartment complexes, condominiums, townhouses, cottages, etc., and their associated outbuildings including garages, storage buildings, gazebos, etc., and customary home occupations. For purposes of this Policy, a Retirement Community shall not be deemed a Residential Development Project.

- **Retirement Community** – refers to a housing development that is designed for and restricted to occupancy by households having at least one member who is fifty – five (55) years of age or older, and in which children under eighteen (18) years of age shall not reside for more than ninety (90) days per calendar year.
- **Self Help Project** – refers to a Project that is derived from the County’s Self Help Program. The Self Help Program targets residents who face an existing or imminent threat to public health or to the environment due to poor water quality or insufficient water supply.
- **UCPW** – refers to the Union County Public Works Department.
- **UCWS** – refers to the potable water system owned by Union County and operated and maintained by UCPW.
- **Water Permit** – refers to an Authorization to Construct permit for water system infrastructure secured for a Development Project from the North Carolina – Department of Environment and Natural Resources (NC-DENR). After approval by UCPW staff, Development Projects are typically submitted to NC-DENR for an Authorization to Construct permit by the County.

2.0 RECITALS

- 2.1. The UCWS is operated by UCPW and is supplied with potable water by the CRWTP and the ACWTP. Union County has ownership rights in the CRWTP that includes a Maximum Day Capacity of 18 MGD. Considering current hydraulic restrictions, the UCWS has a Maximum Day Capacity of approximately 2 MGD available from the ACWTP. While the current total Maximum Day Capacity available in the UCWS is approximately 20 MGD, water from each of these sources is isolated to distinct service areas of the UCWS. That is, water supply from the CRWTP cannot easily be utilized in the UCWS served by the ACWTP, and vice-versa. These service area boundaries are generally outlined as shown on attached Figure 1.
- 2.2. Given the location of population growth, proposed Development Projects, and increasing water demands within the County, this Policy applies to the allocation of available water treatment plant capacity from the CRWTP and the UCWS currently served by this water supply source. A review of historical water use data indicates that the Maximum Day Capacity from the CRWTP has

been exceeded due to high Peak Day Demands associated primarily with outdoor irrigation in this service area.

- 2.3. The UCWS has interconnections with Charlotte-Mecklenburg Utilities and the City of Monroe. These interconnections are utilized for emergency purposes only and do not offer an increase in long-term available water treatment capacity to the County's water system.
- 2.4. Due to varying topography throughout the County, the UCWS operates on four distinct pressure gradients, or pressure zones. While these pressure zones are interconnected, universal movement of water throughout the UCWS is not possible.
- 2.5. For a number of years, high population growth, coupled with other commercial, industrial, and institutional growth has placed increasing water demands on the UCWS, particularly in the western part of the County. These demands have stressed the limits of available water treatment capacity and the hydraulics of moving this water through the piping distribution network to the County's customers.
- 2.6. The UCWS has also observed significant peak demands in water use associated with a hot, dry climate and numerous drought years since 1998. These Peak Day Demands are indicative of water systems with a heavy residential component and predominantly larger residential lot sizes with high outdoor water use, particularly for irrigation.
- 2.7. Union County recently participated in Duke Energy's Federal Energy Regulatory Commission (FERC) relicensing process for the Catawba River. Union County was one of many regional governments who became a signatory stakeholder for Duke Energy's Comprehensive Relicensing Agreement (CRA). This CRA establishes rules and guidelines for how the Catawba River system will be operated for the next 50 years, ending in year 2058. One major element of the CRA is the implementation of a Low Inflow Protocol (LIP) that establishes a policy for how Duke Energy and other stakeholders will operate during periods of drought. This LIP requires regional water users to move through a series of staged water use restrictions during worsening drought conditions. It should be noted that the LIP establishes minimum requirements for water use restrictions. Each water utility has the flexibility to impose greater restrictions, if desired. Regional cooperation between Duke Energy and large water users along the Catawba River helped preserve and protect available water supply during the extreme drought of 2007 and 2008.

- 2.8.** While UCWS customers were under no water restrictions and had unlimited water use available, the Union County Water System experienced eight days in May of 2007 where Peak Day Demand exceeded the Max. Day Capacity of 18 MGD from the CRWTP. The highest daily usage measured was 21.3 MGD. To supply adequate water to meet these demands, UCPW had to utilize, on a temporary basis, water capacity from the CRWTP that is designated to Lancaster.
- 2.9.** In June of 2007, UCPW instituted Stage 2 water use restrictions, which required its customers to limit outdoor water use (including irrigation) to two days per week. While under these water use restrictions, the UCWS experienced two days where Peak Day Demand exceeded the Max. Day Capacity of 18 MGD from the CRWTP, again reaching 19.5 MGD. To supply adequate water to meet these demands, UCPW again had to utilize water capacity from the CRWTP that is designated to Lancaster.
- 2.10.** During the latter part of 2007 and through the first quarter of 2008, as the regional drought continued to worsen, UCPW instituted stricter Stage 3 water use restrictions including the elimination of outdoor irrigation. These restrictions showed a measurable reduction in water use by the County's customers.
- 2.11.** In April of 2008, UCPW continued Stage 3 water restrictions, and modified provisions to require its customers to limit outdoor water use (including irrigation) to one day per week. Even under these water use restrictions, the UCWS experienced numerous days where Peak Day Demand exceeded the Max. Day Capacity of 18 MGD from the CRWTP, with the highest daily demand reaching 19.8 MGD. To supply adequate water to meet these demands, UCPW continued to utilize water capacity from the CRWTP that is designated to Lancaster.
- 2.12.** The information presented in Articles 2.8 – 2.11 is illustrated in the attached Figure 2.
- 2.13.** Continued use of Lancaster's allocated water treatment capacity is not considered a viable alternative to increasing available water treatment plant capacity for the UCWS. Allowing additional customers to utilize Lancaster's allocated capacity in the CRWTP service area would put in jeopardy continued reliable service to the UCWS existing customer base.
- 2.14.** Without strict water use restrictions, there would be no (0 MGD) additional water treatment capacity to allocate to new customers.

- 2.15.** Prior efforts by UCPW to limit outdoor water use have typically included customer watering based on odd/even addresses – where approximately 50% of the customer base is given a weekend day to water (i.e. Saturday or Sunday) . A review of water use data indicates that while this approach may reduce overall total water use, it increases the Peaking Factor between Maximum Day conditions and average conditions. Analysis of water use data indicates that spreading this irrigation demand will decrease the Peaking Factor. If Maximum Day Demand can be lowered below 18 MGD, additional water treatment capacity can be allocated to new customers.
- 2.16.** In August 2008, UCPW established a revised water rate structure to promote water conservation among its highest use customers. It is likely that this rate change will reduce peak day usage within the County, thereby extending available water treatment capacity.
- 2.17.** With outdoor water use restrictions set at a 1-day per week requirement – and spread over a 7-day period of use – it is estimated that during periods of peak demand, approximately 2.4 MGD of Average Day Demand is available for allocation to new customers.
- 2.18.** Peak Day Demand depends on many variables including time of year (i.e. season), temperature, recent precipitation patterns, other climatic conditions, economic conditions, water rates, and other factors. As such, the Union County Manager and UCPW will monitor these variables and Peak Day Demand trends and make recommendations to the Board of Commissioners regarding adjustments in water use restrictions for customers. Any recommended adjustments will be made in accordance with the provisions outlined in the County’s Water Conservation Ordinance. Historical trends, coupled with other factors (e.g. recent water rate adjustments, recent changes in irrigation distribution among customers), indicate that there exists a strong likelihood to maintain outdoor irrigation for customers at 2-days per week or greater.
- 2.19.** The County will continue to cooperate with Duke Energy and other regional water utilities to implement and comply with the LIP as required.
- 2.20.** In recognition of the changing economic conditions and current inventory of Residential Projects with Water Permits, it was determined that Nonresidential and Government Facilities Projects should receive the limited remaining water allocation. Current data to support these changing conditions is outlined below:
- Residential building permit applications have declined by over 60% from the same time period of the previous year.

- On April 3, 2009, approximately 4,500 vacant residential building lots in the CRWTP service area without building permits have both Water Permits and existing water infrastructure in place.

2.21. The Peaking Factor associated with Nonresidential Development Projects is typically lower than the Peaking Factor associated with Residential Development Projects. As such, the impact on the UCWS is lessened during future Peak Day Demand conditions as it relates to Nonresidential Projects.

2.22. The Policy set forth herein is intended to provide guidelines for allocating, in a fair, rational, and lawful manner among competing interests the available water treatment capacity. Subject to approval of the County Manager, the UCPW Director may authorize a departure from these guidelines when strict adherence would frustrate the purpose of these guidelines or endanger the health and safety of the citizens of Union County. The County Manager shall report any such departure to the Board of County Commissioners no later than the Board's next regular meeting.

2.23. This Policy creates no legal right to receive, nor any legal duty on the part of Union County or UCPW to provide any amount of existing or future water treatment capacity from the CRWTP, or other sources.

3.0 SCOPE

This Policy applies to the allocation of approximately 2.4 MGD (Average Day Demand) that is estimated to be available using the water use restrictions described in Section 2.17 above. Except as otherwise stated herein, this Policy applies to all Development Projects located in the CRWTP service area served by the UCWS for which the owner or developer requests a new or expanded connection.

4.0 PURPOSE

This Policy is intended to establish guidelines for allocating the limited water treatment capacity in a fair, rational, and lawful manner, taking into consideration, among other things:

- The need to fulfill outstanding legal obligations Union County has, if any, to provide water system service;
- The need to reserve capacity to serve public school facilities, County projects, and other Governmental Facilities;
- The desire to provide a high level of service to existing customers;

- The desire to treat alike all Development Projects that are similarly situated as to: (i) type of Project; and (ii) stage of progress in the procedures required to connect to the Union County Water System.
- The desire to promote Nonresidential Development Projects in Union County that will reduce the impact on Peak Day Demands as compared to Residential Projects. These Nonresidential Development Projects will also support an increase in the County's employment and property tax base while imposing fewer demands than those imposed by Residential Development Projects (e.g. overburdened schools).
- The need to protect public health and safety.

5.0 EFFECTIVE DATE

The original Water Allocation Policy became effective upon adoption by the Union County Board of Commissioners on October 20, 2008.

The Amended and Restated Policy shall become effective upon adoption of the revisions by the Union County Board of Commissioners and may be repealed or modified at any time, without notice.

A public hearing was held on October 6, 2008 regarding the Water Allocation Policy. A second public hearing was held on July 20, 2009 regarding the Amended and Restated Policy.

6.0 WATER ALLOCATIONS

The attached Table 1 provides a summary of the Projects identified during development of the Water Allocation Policy. These Projects are divided into Categories A and B as described in the sub-sections below.

Table 1 also outlines the estimated Average Day Demand and category assignments for each Project. Residential flow allocation is based on a calculated average use for the UCWS of approximately 250 gallons per day (gpd) per unit. Nonresidential and Government Facilities were assigned flow either from actual flow estimated by the Development Project, or from the calculated average use for current UCWS Nonresidential customers of approximately 1,500 gpd per connection.

The following sub-sections provide a more detailed explanation of each category level assignment.

6.1 Category A Projects

Category A Projects include:

- Government Facilities Projects 0.068 MGD

▪ Nonresidential Projects	0.413 MGD
▪ Residential Projects	1.635
MGD	
▪ One Tap Projects ¹	0.080
MGD	
▪ Self Help Projects	0.060
MGD	
▪ A reserve allocation for Nonresidential/Government	0.144
MGD ²	
Facilities Projects not otherwise listed in Table 1 and included	
above. ³	

TOTAL 2.400 MGD

¹Once approved by UCPW, existing residences will have 60 days to complete installation of a service connection and pay all associated tap fees before expiration of this water allocation. Existing residential, vacant lots will have to comply with the provisions of Note 3 below.

²This allocation will be utilized for Projects that are estimated to use 20,000 gallons/day or less (as determined by UCPW) and are located in the CRWTP service area. This allocation shall be assigned to new Nonresidential/Government Facilities Projects on a first come, first serve basis. The amount available is estimated at 144,000 gpd plus the amount of water allocation secured from other Category A Projects that fail to move forward as outlined in Section 7.0 below.

³The owners or developers of these Projects shall:

- Confirm that existing water lines are contiguous to the Project site directly or through an existing right of way.
- Confirm proper land use permitting (including zoning) from all applicable jurisdictions to allow the proposed development to occur.
- Submit a detailed written description of the Project to UCPW for approval (including type of project, average day water demand, fire flow needs, and any other special conditions). Such written description shall include sufficient detail to enable UCPW to make a reasonable determination that it is more likely than not that the Project will proceed within the time constraints for obtaining a building permit, as outlined below.
- UCPW staff may, if desired, request additional information from the Project's owner in order to make a final determination. If approved, UCPW will issue, in writing, a water allocation for the proposed Project. Failure to obtain a building

permit for all facilities associated with the Development Project within 270 days from written approval of the Project shall result in a forfeiture of the water allocation. If a building permit is issued within 270 days from written approval of the Project and thereafter expires, or is otherwise terminated without issuance of a certificate of occupancy, it shall result in expiration of the water allocation for the Project.

These Category A Projects account for an estimated total of approximately 2.4 MGD of Average Day Demand. This Policy directs UCPW to provide water service to these Projects.

6.2 Category B Projects

Category B Projects include all other Residential and Nonresidential projects identified during development of this Policy.

These Projects account for an estimated total of 2.243 MGD of Average Day Demand. As new water treatment capacity becomes available, UCPW will make recommendations to the County Manager regarding amendments to this Policy.

6.3 Category C Projects

Category C Projects include all future Projects that are brought to UCPW for consideration of water service. UCPW will establish procedures to track these new development projects.

6.4 Adjustment of Water Allocations

UCPW will continually update water use trend data and other variables to determine the effectiveness of the Policy. Should sufficient data become available to support revisions to the water allocations as outlined herein, the County Manager shall make amendment recommendations to the Board of Commissioners for approval.

7.0 EXPIRATION OF EXISTING WATER PERMITS

After approximately 22 months from receipt of a Water Permit for any portion of a Development Project where an engineer's certification of completion has not yet been submitted, NC-DENR issues a notification to UCPW (the permittee) requesting the status of the Project. This notice requests an update on the project; in particular, whether to extend the Water Permit. Upon receipt of this notice for individual Development Projects listed herein, UCPW will review its in-house inspection activities for the Project. If it is determined that reasonable progress is not being made toward completion of the Project, UCPW will notify

NC-DENR that the County does not request an extension of the Water Permit. A copy of UCPW's response will also be sent to the Owner of the Project. Upon the expiration of the Water Permit, the water allocation for the Project shall be considered available to UCPW for reallocation. All water allocations that become available due to the expiration of a Water Permit will be assigned to new Nonresidential Development Projects as described in Section 6.1.

8.0 ACCEPTANCE OF NEW ENGINEERING PLANS AND WATER PERMIT APPLICATION PROCESS

UCPW shall continue to accept new engineering plans and make application for Water Permits for Projects requiring connection to the Union County Water System in the Anson County Service Area.

Except as noted below, effective August 12, 2008, UCPW shall not accept any new engineering plans or make any application for Water Permits for Projects other than Category A Projects. For Projects where engineering plans have been received, but application for a Water Permit has not been made, UCPW staff shall provide comments on the proposed Project, but shall not apply for a Water Permit.

9.0 NOTIFICATION PERIOD FOR OMISSIONS/CORRECTIONS

The owner or developer of any Project not appearing in Table 1 but for which UCPW has issued correspondence regarding water availability prior to August 11th, 2008, had an opportunity within 30 days of the original adoption of this Policy (i.e. October 20, 2008) to submit written documentation of the same to the UCPW Director. The owner or developer of any Project listed in Table 1 that contended that the information listed to be in error, had an opportunity within 30 days of the original adoption of this Policy (i.e. October 20, 2008) to submit written documentation of the proposed correction to the UCPW Director.

10.0 DIRECTIONS TO COUNTY STAFF

County staff shall notify the Board of Commissioners on a quarterly basis regarding water use trends. These updates shall include a summary of new connections and estimated capacity consumed by the new connections.