

An aerial photograph of a large, winding reservoir surrounded by dense green forest and rolling hills. The water is a deep blue, and the surrounding land is covered in lush vegetation. The sky is a pale blue with some light clouds.

# Keowee-Toxaway Hydroelectric Project Relicensing

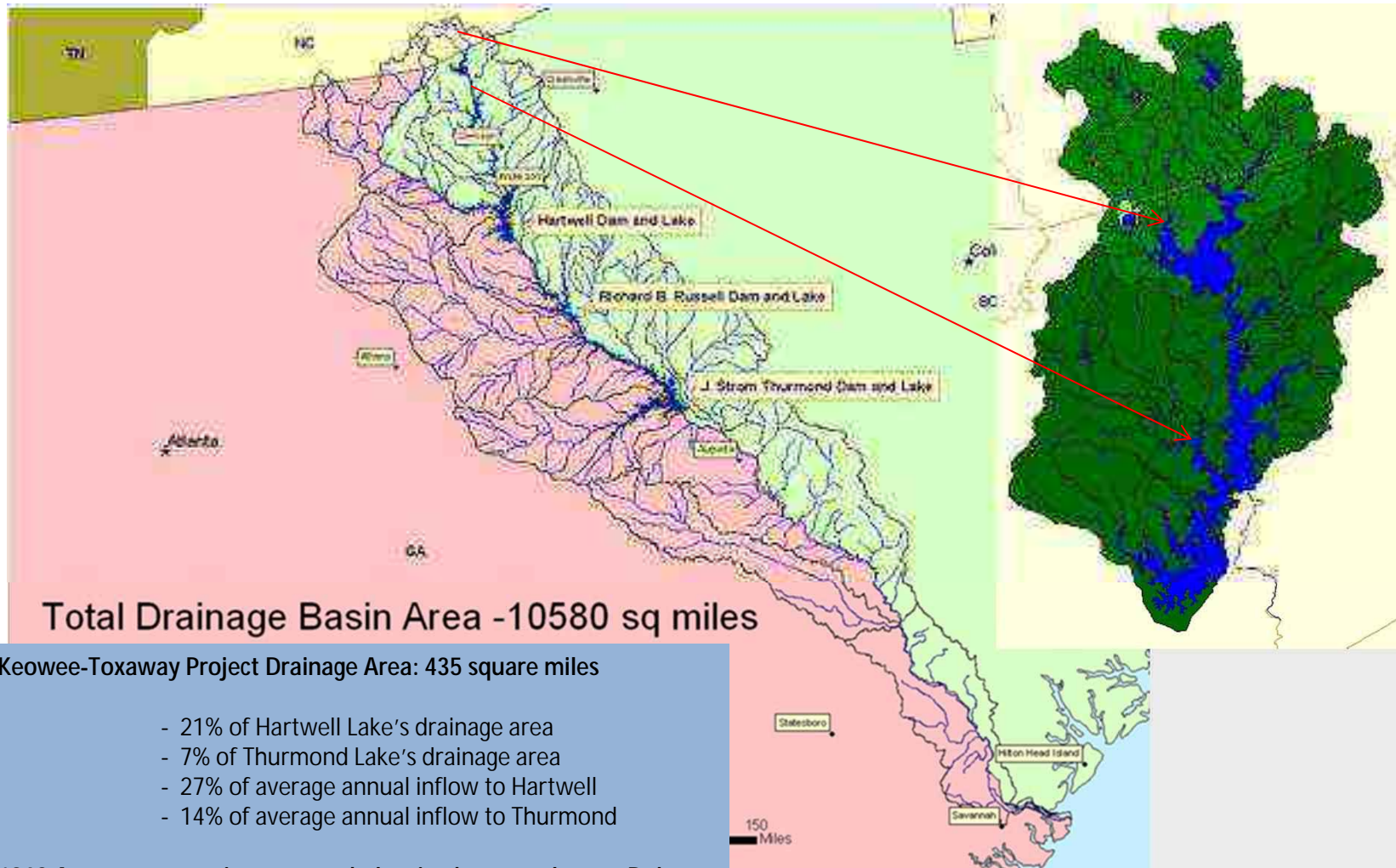
Status Update  
December 20, 2012

# Today's Discussion

- **Background**
  - Savannah River Basin
  - Duke Energy's Lakes
  - Relicensing activities to-date
  - Stakeholder process
- **Trial Balloon**
  - Focus on water quantity
- **Upcoming Activities**
- **Questions**

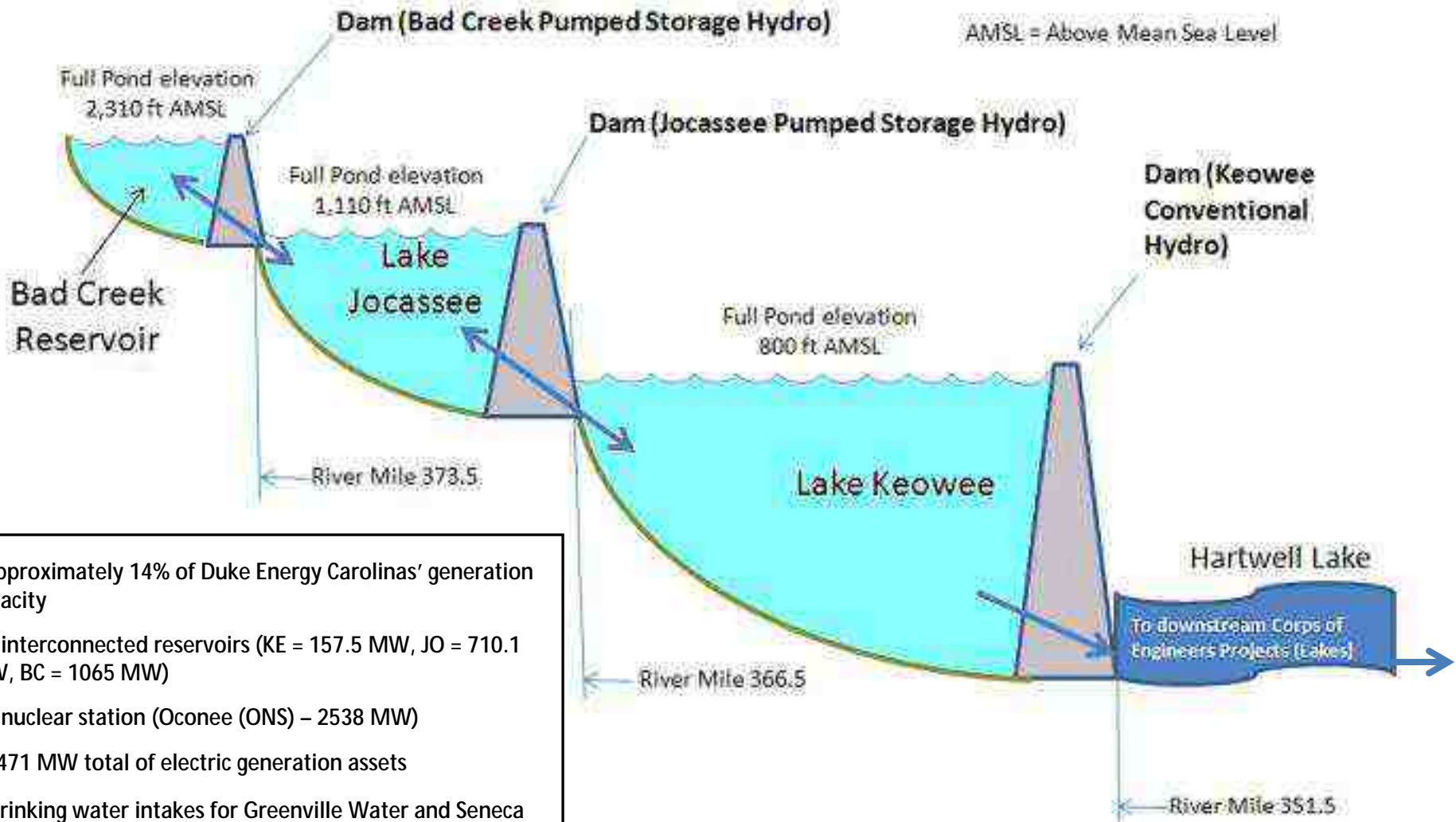


# Keowee-Toxaway Hydro Project & the Savannah River Basin



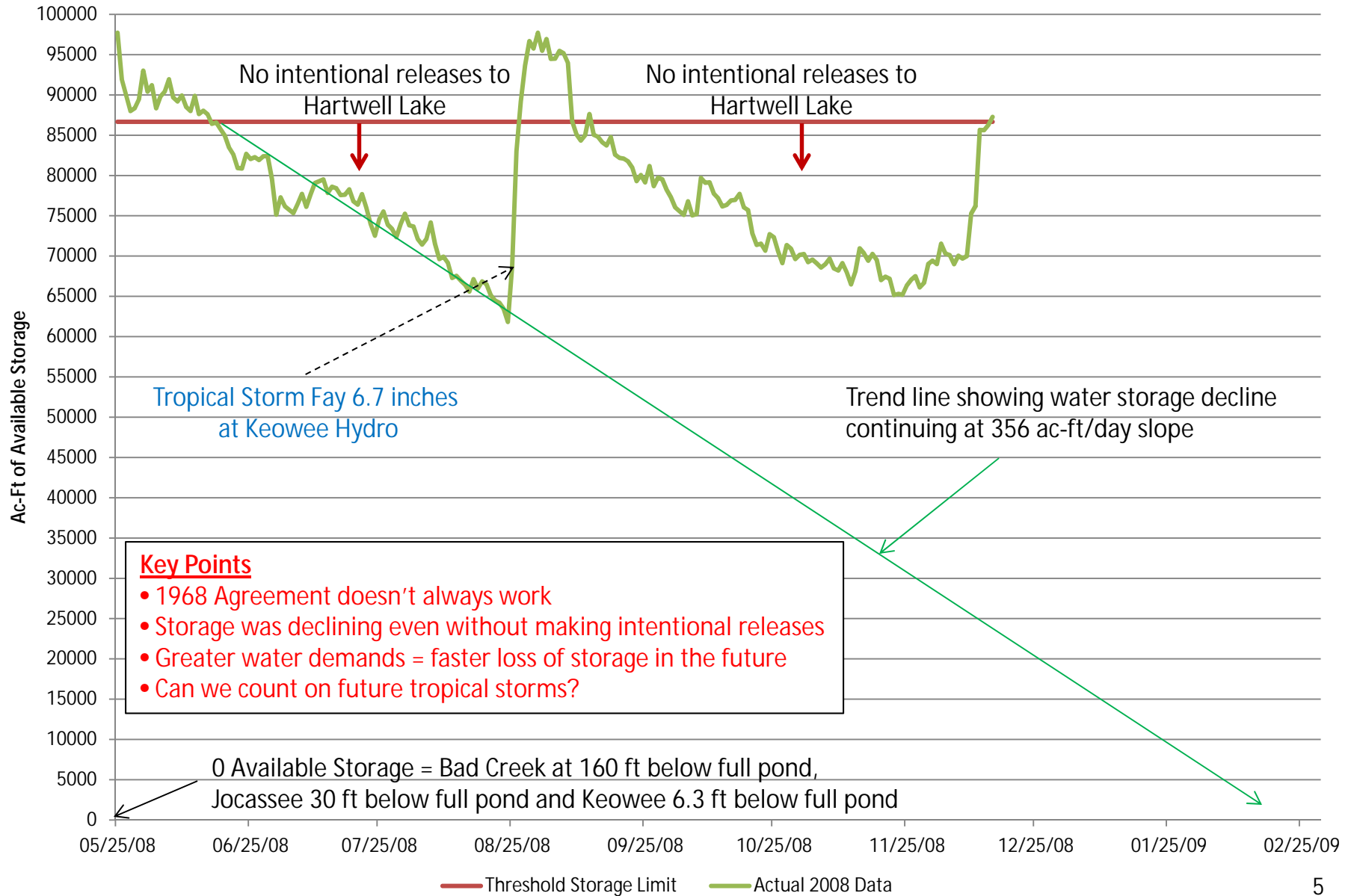


# Duke Energy's Keowee-Toxaway Area Reservoirs



- Approximately 14% of Duke Energy Carolinas' generation capacity
- 3 interconnected reservoirs (KE = 157.5 MW, JO = 710.1 MW, BC = 1065 MW)
- 1 nuclear station (Oconee (ONS) – 2538 MW)
- 4471 MW total of electric generation assets
- Drinking water intakes for Greenville Water and Seneca Light & Water
- Thousands of lake neighbors
- Hundreds of thousands of recreation visits per year

# Lakes Keowee, Jocassee and Bad Creek Usable Storage



# Keowee-Toxaway Relicensing – Completed Activities

2009	<ul style="list-style-type: none"> <li>• <b>June: Public Open House</b></li> <li>• <b>September: Stakeholder Team formed</b>; electronic newsletter initiated</li> <li>• October: Resource Committees formed</li> </ul>
2010	<ul style="list-style-type: none"> <li>• January – December: Developed draft study plans</li> <li>• September: Draft Pre-Application Document (PAD) distributed</li> </ul>
2011	<ul style="list-style-type: none"> <li>• <b>March: Notice of Intent and PAD filed with the FERC</b></li> <li>• June: Site tours and public FERC Scoping Meeting</li> <li>• August: Proposed Study Plan</li> <li>• September: Study Plan meetings</li> <li>• December: Revised Study Plan</li> </ul>
2012	<ul style="list-style-type: none"> <li>• <b>January: FERC Study Plan approval</b></li> <li>• <b>September: Trial Balloon</b></li> </ul>

# Keowee-Toxaway Project – Other Completed Activities



2010	<ul style="list-style-type: none"><li>• July: Recreation Management Plan for Existing License approved</li></ul>
2011	<ul style="list-style-type: none"><li>• December: draft Comprehensive Environmental, Engineering, and Economic Analysis Impact Report for Revising the 1968 Operating Agreement for the Keowee-Toxaway Project</li></ul>
2012	<ul style="list-style-type: none"><li>• February: Interim Low Inflow Protocol implemented</li></ul>

# KT Relicensing Studies

- Fish Community Assessment
- National Register Eligibility Assessment
- Recreation Use and Needs
- Shoreline Management Plan Mapping Update
- Lake Jocassee and Lake Keowee Erosion
- Jocassee Forebay and Tailwater Dissolved Oxygen
- Lake Keowee Water Quality Model
- Reservoir and Project Flow Releases
- Operations Model
- Water Supply
- Wetlands
- Avian
- Botanical
- Mammal







# KT Relicensing Stakeholders

## *Federal Agencies*

Eastern Band of Cherokee Indians\*  
NOAA Fisheries\*  
Southeastern Power Administration  
US Army Corps of Engineers\*  
US Fish and Wildlife Service\*

## *NC Agencies*

NC Department of Cultural Resources

## *SC Municipalities & Agencies*

Anderson Regional Joint Water Supply  
City of Pickens  
City of Walhalla  
Greenville Water\*  
Oconee County\*  
Pickens County\*  
Pickens County Water Authority\*  
SC Department of Archives and History\*  
SC Department of Health and Environmental Control\*  
SC Department of Natural Resources\*

SC Department of Parks, Recreation and Tourism\*  
Seneca Light and Water\*  
Six Mile Rural Water District  
Town of Salem

## *Others*

Advocates for Quality Development, Inc.\*  
Anderson Chamber of Commerce, Water Resources  
    Subcommittee\*  
Friends of Lake Keowee Society\*  
John Hamrick Real Estate  
Keowee Vineyards Property Owners Association\*  
Kroeger Marine Construction  
Lake Hartwell Association  
SC Wildlife Federation\*  
The Reserve at Lake Keowee\*  
Trout Unlimited  
Upstate Forever\*  
Warpath Development, Inc. \*

*32 Total Organizations (not including Duke Energy)*

*\* Indicates organization eligible to sign a Relicensing Agreement*

An aerial photograph of a large, blue reservoir surrounded by lush green hills and forests. The water is calm, reflecting the sky. The word 'Questions?' is overlaid in the center of the image in a large, black, sans-serif font.

**Questions?**

# Trial Balloon

- *Draft* proposal for the non-binding Agreement-in-Principle (AIP)
- Aimed at balancing stakeholder interests
  - Project operations
  - Historic properties
  - Shoreline management
  - Recreation
  - Water supply and quality
  - Environmental resource management
- Presented by Duke Energy in September 2012
- *AIP negotiations and modifications are on-going*



# Trial Balloon: Reservoir levels

- Reservoir levels during non-drought, non-emergency periods
  - Jocassee: 1110 ft – 1096 ft
  - Keowee: 800 ft – 795 ft
- Low Inflow Protocol (LIP) helps manage drought--  
-an act of nature
- Minimum reservoir levels during LIP
  - Jocassee: 1080 ft (same as Existing License)
  - Keowee: 790 ft (higher than 775 ft in Existing License)
    - Hydro could go to 775 ft now, but would shutdown ONS
    - Allows downstream flow releases for longer periods during drought, but amount of flow releases are ratcheted down





Jocassee					Local Datum (ft)	Keowee					Maximum Required Weekly Flow Release ac-ft		
ft AMSL						ft AMSL							
1110	Normal - Stage 0	Stage 1	Stage 2	Stage 3	Stage 4	100	Normal - Stage 0	Stage 1	Stage 2	Stage 3	Stage 4	800	25,000 or 20,000
1109						99						799	
1108						98						798	
1107						97						797	
1106						96						796	
1105						95						795	
1104						94						794	18,750
1103						93						793	15,000
1102						92						792	10,000
1101						91						791	Leakage or 7,500
1100	90	790											
1099													
1098													
1097													
1096													
1095													
1094													
1093													
1092													
1091													
1090													
1089													
1088													
1087													
1086													
1085													
1084													
1083													
1082													
1081													
1080													

# LIP Stages: Reservoir Elevations and Flow Releases

# Trial Balloon: New Operating Agreement

- New Operating Agreement with the US Army Corps of Engineers & Southeastern Power Administration
  - Consistent with Relicensing Agreement
  - *Recognize Lake Keowee minimum reservoir elevation of 790 ft AMSL instead of 775 ft AMSL*
  - Recognize all six reservoirs

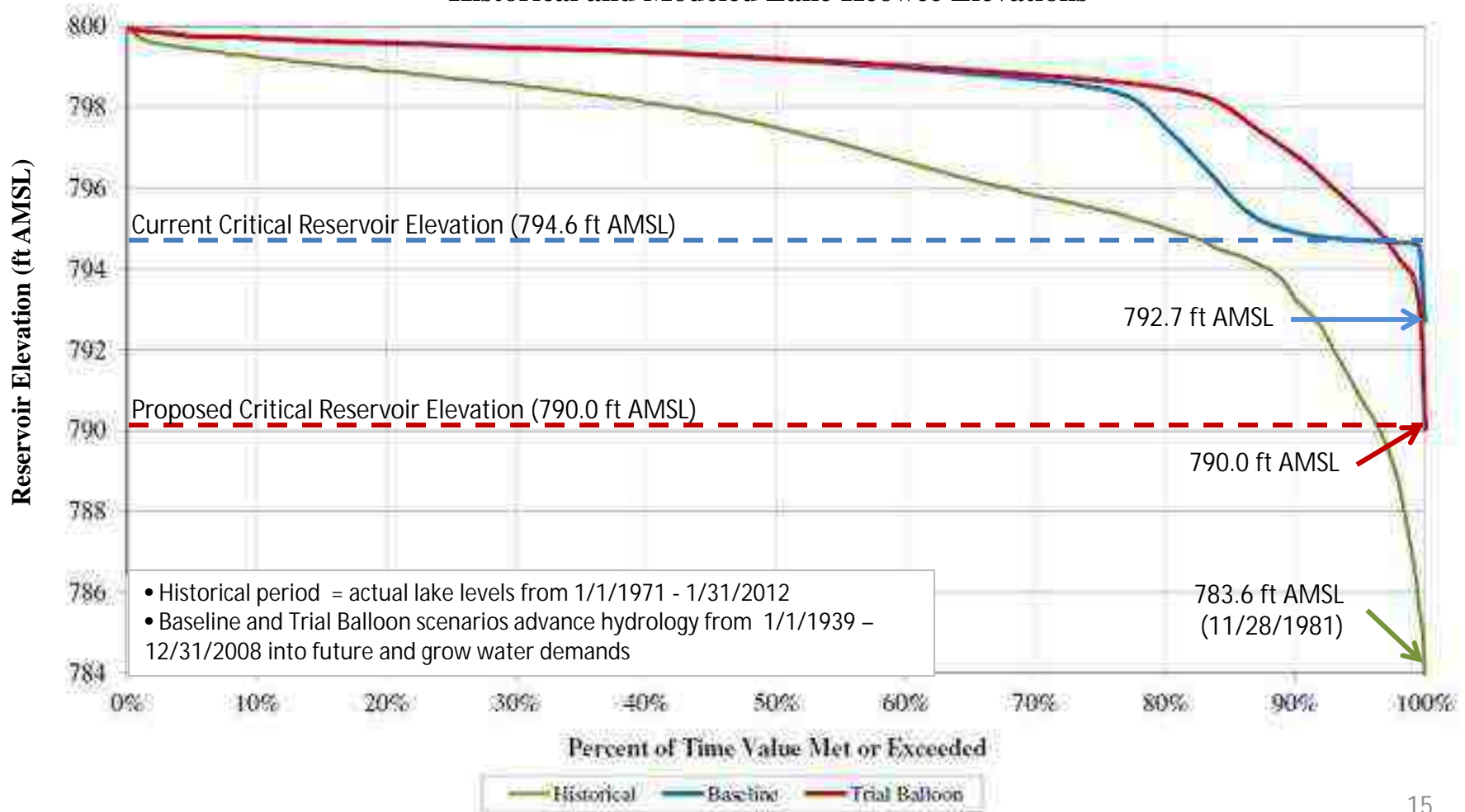


**US Army Corps  
of Engineers** ®  
Savannah District

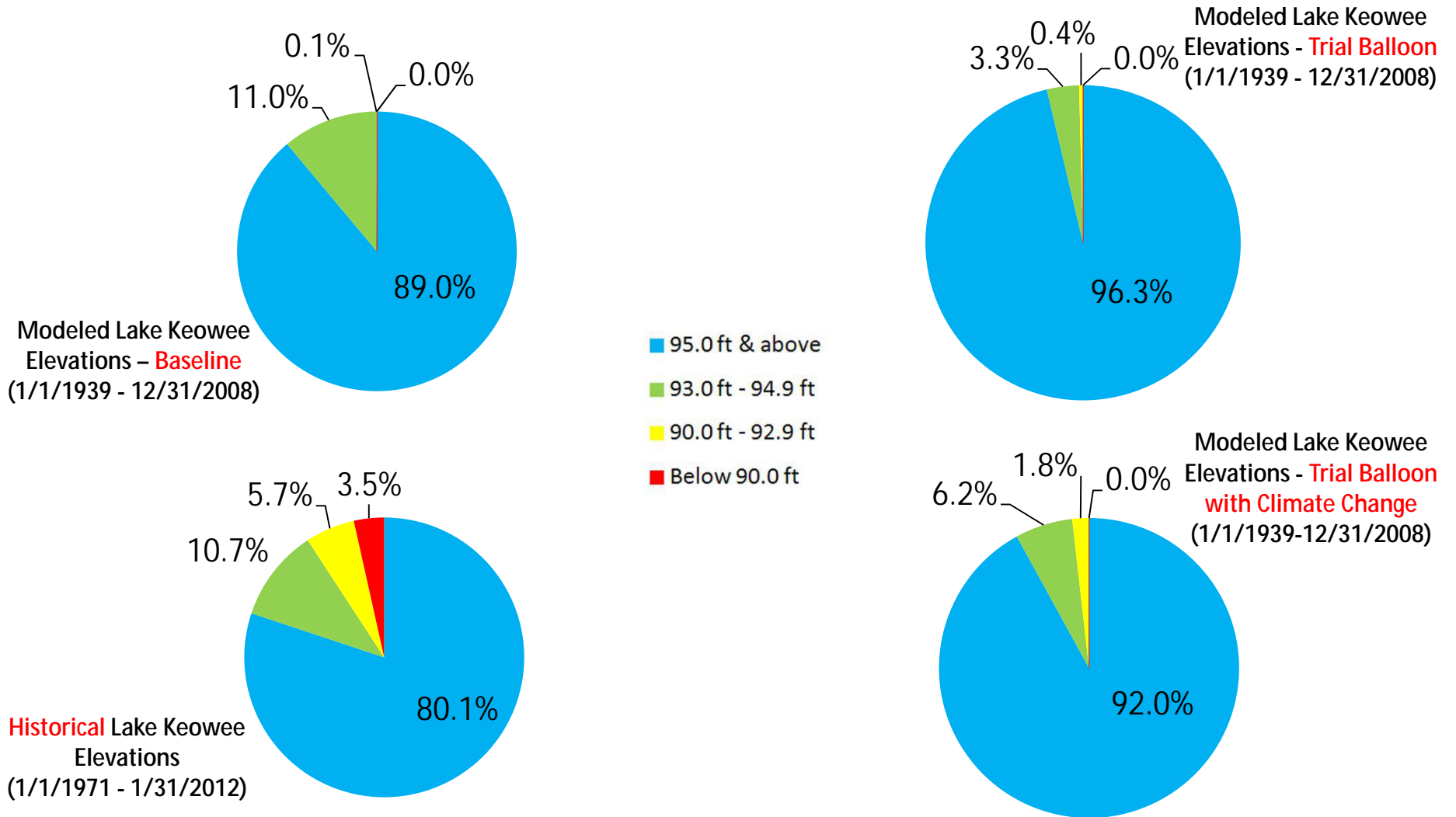


# Trial Balloon: Keowee Reservoir Level Model Results

Historical and Modeled Lake Keowee Elevations



# Trial Balloon: Keowee Reservoir Level Model Results





An aerial photograph of a large, winding reservoir or lake system. The water is a deep blue color, and the surrounding land is covered in dense green forest. The terrain is hilly, with various peninsulas and islands extending into the water. The sky is bright and clear.

**Questions?**

# Trial Balloon: Shoreline Management

- Implement the Shoreline Management Plan (SMP) on 9/1/2014
- Review and update as necessary every 10 years during the New License term
- Shoreline Management Guideline (SMG) changes
  - Existing residential pier owners must remove un-encapsulated foam within two years after New License issuance
  - Pier owners allowed to move further into the reservoir (i.e., "follow the water") during drought LIP Stages 2-4



# Trial Balloon: Public Recreation

- New Recreation Management Plan for first 20 years
  - New leases: Bootleg (18 ac), Licklog (46 ac), Dismal Ck (21 ac) to SCDNR (18 ac); expand Double Springs Campground to SCDPRT (25 ac); Fall Creek (155 ac), Keowee Town (31 ac), Stamp Creek (24 ac), Cane Creek (30 ac) to Oconee County
  - Keowee-Toxaway State Park enhancements: Camping and non-motorized boating facilities at 15-acre lake
  - Additional enhancements TBD
- Community safe boating educational effort in the Project area
- Oconee & Pickens Counties school programs on environmental stewardship and litter prevention
- Semi-annual litter collection efforts on Project islands

# Trial Balloon: Enhancement Funds

- Habitat Enhancement Program (HEP)
- Water Quality Enhancement Fund
- Savannah River Water Resource Planning
- \$ Amounts TBD



Island shoreline before (top) and after (bottom) enhancement efforts



# Speaking Clearly about 790 ft

- **Duke Energy doesn't want lower lake levels**
  - Hydro station efficiency is reduced
  - Water volume operating margin (but not nuclear safety) is reduced
  - Company doesn't benefit financially from lower lake levels
  - Lake management is more difficult

# Speaking Clearly about 790 ft

- So why spend millions at ONS to allow Keowee to go to 790 ft during severe drought?
  - Keep ONS running during future droughts
  - Allow for continued regional economic growth
  - Support downstream water needs longer in drought
  - Provide FERC and the USACE with a **balanced, realistic and sustainable solution** for a New License and a New Operating Agreement

# Speaking Clearly about 790 ft

- Lake access
  - Duke Energy public boat ramps will all still be usable
  - Duke Energy and Stakeholder Team are evaluating options to minimize lake neighbor and lake user impacts
    - Following the water
    - Other potential options related to dock size, excavations and permitting processes
    - Additional operating scenarios
    - Additional boater education, markings, etc.
  - No change to which properties are / aren't waterfront

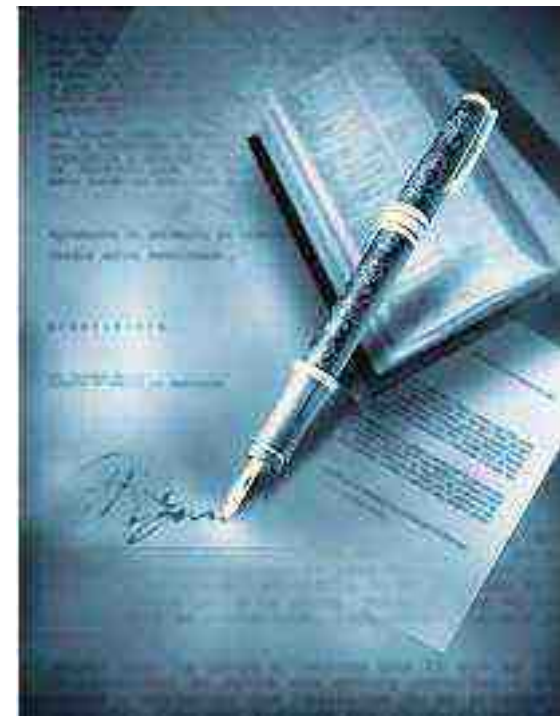
# Speaking Clearly about 790 ft

- Property values
  - There is no proposed “new norm” for lake levels; 800 ft to 795 ft is still where we would be with normal water availability
  - **No one** can guarantee specific lake levels in a rainfall dependent water system
  - 25-ft maximum drawdown is the real and present licensed floor
  - Any individual property evaluations must consider all the relevant facts:
    - Negative
      - Lower lake levels possible during later stages of very severe, extended droughts
    - Positive
      - Levels below recent history should be rare (Modeling data points: below 793 ft 0.4% of time with 70-yr hydrologic record, 1.8% of time with severe climate change scenario)
      - Higher lake levels should occur more frequently (Modeling data points: higher lake levels about 25% of the time with 70-yr hydrologic record and proposed new operation)
      - Lake level licensed floor would be 15 ft higher (i.e., 10 ft v. 25 ft)
      - Keowee still very well positioned between Jocassee (30-ft licensed floor) and Hartwell (35-ft maximum drawdown)
      - Benefits of any other options???
  - Study performed by Clemson University for Draft Comprehensive Report should meet FERC and USACE process needs
  - Since we’re doing all we can within the scope of a potential New License to keep Keowee lake levels up, Duke Energy doesn’t plan to do another study or provide compensation

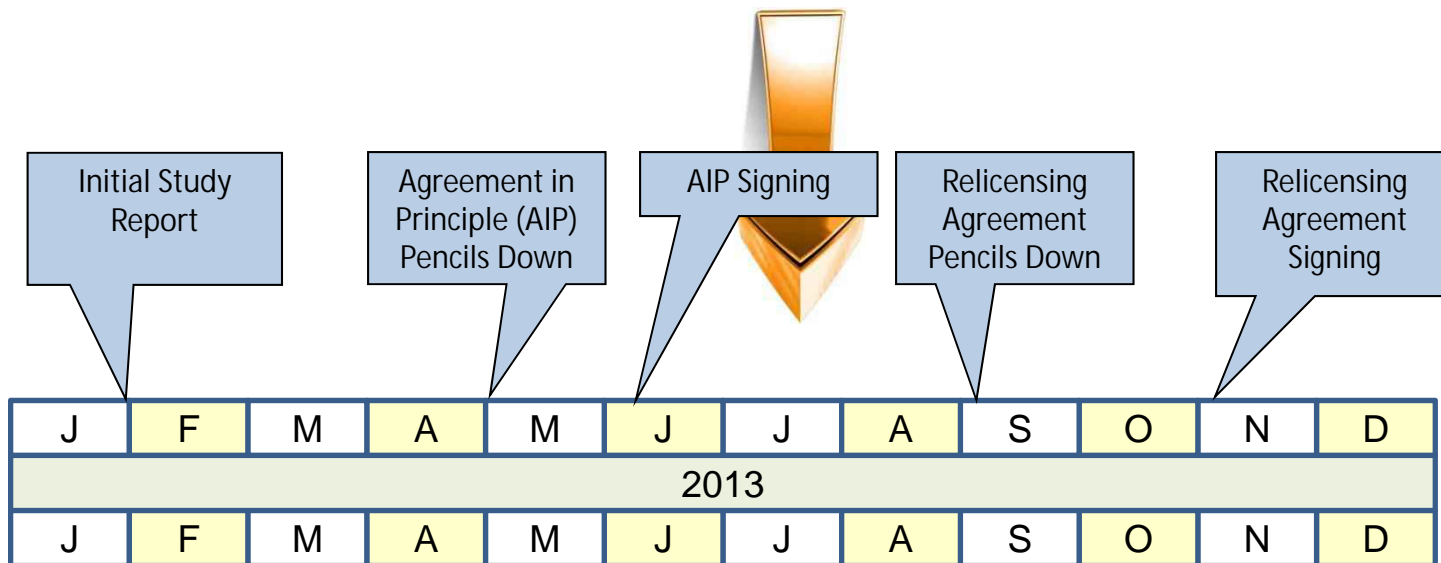
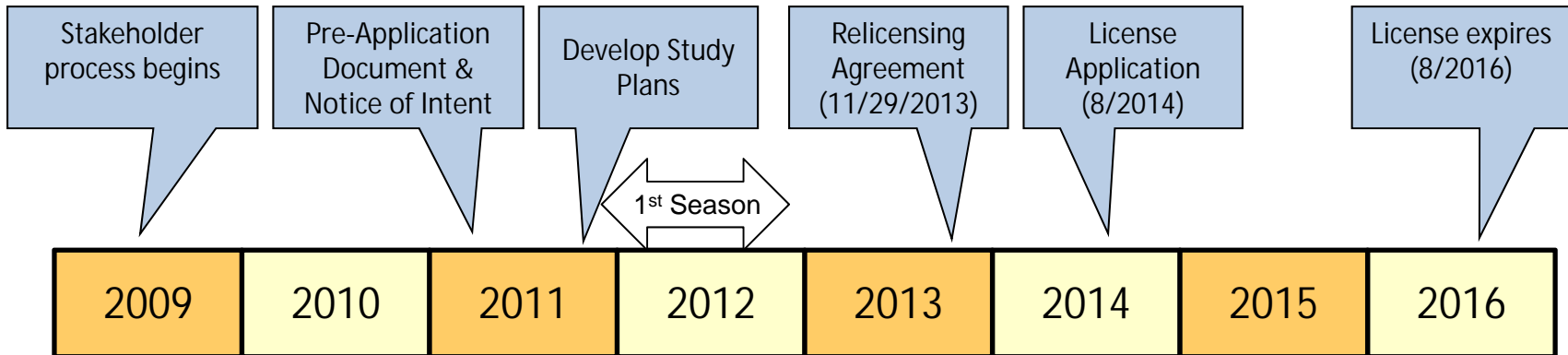


# Trial Balloon: Next Steps

- Stakeholder Team Negotiations
  - Operating Scenarios
  - Study Results
- Pencils Down on AIP: May 2013
- Non-binding AIP Signing: July 2013
- Relicensing Agreement Signing: November 2013



# Keowee-Toxaway Relicensing – Upcoming Activities



# Keeping Informed

- Stakeholder Team Representatives:
  - Oconee County: Art Holbrooks, Aaron Gadsby

- eNewsletter: register by emailing [ktrelicensing@duke-energy.com](mailto:ktrelicensing@duke-energy.com)



- Relicensing website  
[www.duke-energy.com/lakes/keowee-toxaway-relicensing.asp](http://www.duke-energy.com/lakes/keowee-toxaway-relicensing.asp)

An aerial photograph of a large, winding reservoir or lake system. The water is a deep blue color, and the surrounding land is covered in dense green forest. The terrain is hilly, with various peninsulas and inlets. The sky is bright and clear.

**Questions?**





## Keowee-Toxaway Hydro Project Relicensing Update – Focus on Keowee Lake Levels

Duke Energy is working with stakeholders to prepare an application for a New License to the Federal Energy Regulatory Commission (FERC) to continue operating its Jocassee and Keowee hydroelectric stations in the Keowee-Toxaway River Basin. As part of this work, and after more than two years of discussions with stakeholders about their interests plus preliminary computer modeling, the company proposed its first draft Agreement-in-Principle (AIP) in September 2012 to the Stakeholder Team (listed below) as a starting point to guide discussion and negotiations.

The draft AIP includes recommendations for how Duke Energy proposes to operate Jocassee Pumped-Storage Station, Keowee Hydro Station and their respective reservoirs in the future. It addresses topics such as hydro operations, public recreation, shoreline management, water quality, public water supply, aquatic, wildlife, and botanical species protection and lake levels.

### Background

In the existing federal license, the minimum allowable lake elevation for Lake Keowee is 775 feet above mean sea level (AMSL), or 25 feet below the full pond level of 800 feet. Duke Energy operated Lake Keowee with much more fluctuation in the 1970s and 1980s than today, with Lake Keowee recording its lowest level of 783.6 feet on November 28, 1981. Over time, Nuclear Regulatory Commission requirements for certain systems at Oconee Nuclear Station evolved, requiring Duke Energy to operate Lake Keowee within a much narrower range of 5.4 feet below full pond or higher since the mid-1990s.

### Proposal for Lake Keowee in normal (non-drought) conditions

Duke Energy's initial draft AIP proposes that Lake Keowee be operated between 795 feet and 800 feet (i.e., no lower than 5 feet below full pond) during all times of normal water availability. This is consistent with what lake users are accustomed to today. If incorporated into the New License, 795 feet would become the lowest level FERC would allow during non-drought conditions.

### Proposal for Lake Keowee during droughts

Rainfall and the resulting stream flow into the reservoirs are the primary drivers for lake levels and the amount that Duke Energy can operate its hydro stations. To manage through the inevitable periods of reduced rainfall, the draft AIP also includes a Low Inflow Protocol (LIP), a plan for coordinating a basin-wide response to droughts. The LIP's intent is to manage shared water resources wisely to protect human health and safety and ensure the stability of regional public water supplies and the electric grid. It includes Stage 0 (watch stage) through

**Proposed Drought Stages and Lake Keowee Operating Elevation Bands**

	Feet AMSL
Normal & Stage 0	800
	799
	798
	797
	796
Stage 1	795
	794
Stage 2	793
	792
Stage 3	791
	790
Stage 4	790
	790

Stage 4 (most severe) and outlines how Duke Energy's hydro generation and downstream flow releases will decrease to conserve water as drought stages intensify.

To support this drought plan, Duke Energy plans to modify Oconee Nuclear Station to allow it to operate at lower levels in Lake Keowee during severe, extended droughts—down to 790 feet or 10 feet below full pond. This modification has several important benefits including:

- Protecting the Electricity Supply – by providing greater drought resiliency for Oconee Nuclear Station—a 2,538 megawatt power plant that is vital to the regional economy and to Duke Energy's ability to provide electricity to our customers in the Upstate.
- Supporting Economic Growth – by providing more usable water storage to meet the water demand that will come with future economic growth.
- Meeting Downstream Water Needs – by extending the time that Duke Energy can make flow releases from Lake Keowee to support downstream water needs.

Under the current license, an extreme drought today could render Oconee Nuclear Station inoperable, with the possibility for Lake Keowee to go down to 25 feet below full pond. This is not desirable for public water suppliers, businesses, lake users or the community at large. This is particularly not desirable for Duke Energy as we want higher lake levels to: (1) get more efficiency from our hydro units, (2) increase flexibility to use pumped storage, and (3) reduce risks of having to shut down Oconee Nuclear Station.

Certain conditions must be met before drought stages in the draft LIP could advance; therefore, Lake Keowee could go to 790 feet in Stage 4 only, the most severe drought stage. At 10 feet below full pond, public boat ramps at Duke Energy's recreation areas would still be available for most boats; however, we know many private residential docks would not be usable by most boats. The Stakeholder Team has been working on various ways to reduce that possible impact, including potentially allowing dock owners to move their floating structures to follow the water. A Stage 4 drought is quite severe and would lend itself to concerns about a host of regional water supply issues in addition to effects on public recreation.

An additional and very important aspect of the proposed LIP is that the maximum amount of water released from Keowee Hydro Station would decrease as the drought worsened. This would allow water levels in Lake Keowee to be maintained at higher levels for longer periods.

#### Lake level modeling results

Duke Energy has conducted computer modeling to help estimate how often various lake elevations could be experienced given certain modeling assumptions. We have modeled the last 70 years of hydrology (i.e., stream flow into the reservoirs) and have also considered potential climate change scenarios. Key results of the modeling to-date include:

- If the last 70 years of hydrology repeated itself, and we operated as proposed in the draft AIP, we'd expect to see:
  - Higher Lake Keowee levels about 25% of the time than they would be if we continued operating as we do currently.
  - Lake Keowee between 795 feet and 800 feet (i.e., no more than 5 feet below full pond) about 96% of the time.



- Lake Keowee below 793 feet but above 790 feet (i.e., between 7 feet and 10 feet below full pond) less than 1% of the time.
- Lake Keowee would reach no lower than 790 feet in the late fall – early winter during only the most severe drought period.
- Based on assessments from the Intergovernmental Panel on Climate Change, an international body that compiles climate change technical expertise from all over the world, we included a potential climate change scenario where the last 70 years of hydrology repeats itself but is altered by an assumed temperature increase of 6 degrees Fahrenheit and an assumed 10% decrease in stream flow. In this scenario, we'd expect to see:
  - Lake Keowee at 795 feet and above (i.e., no more than 5 feet below full pond) about 92% of the time.
  - Lake Keowee below 793 feet but above 790 feet (i.e., between 7 feet and 10 feet below full pond) less than 2% of the time.
  - Lake Keowee would reach no lower than 790 feet in the late fall – early winter during only the most severe drought period.
- If the last 70 years of hydrology repeated itself, Duke Energy made no modifications to Oconee Nuclear Station and the expected growth in water withdrawals occurred, Lake Keowee's level would still fall below 794.6 feet during severe droughts. As the region grows, maintaining the status quo with regard to levels at Lake Keowee during droughts is really not a viable option.

#### Next steps

The goal of Duke Energy and the Stakeholder Team is to bring to FERC a New License agreement that provides the best regional solutions as we consider limited water resources for the next half-century. If the Team is successful, FERC will give considerable deference to the local agreement in the New License. Otherwise FERC will issue a more standard license that will likely not be as attuned to local interests. The Stakeholder Team has been meeting since 2009 and has been working diligently with this broad mission in mind.

From this point, the Stakeholder Team will continue to amend and improve the draft AIP. Since September 2012, the Team has already suggested a number of improvements. Members also will consider and integrate the findings of 14 studies that Duke Energy has undertaken, an investment of \$4.2 million, to equip resource committee and Stakeholder Team members with the best data available. Work on the draft AIP will continue until May 2013, with a plan to have Stakeholder Team members sign a non-binding AIP in July 2013 and sign the final binding Relicensing Agreement in November 2013. Duke Energy will file its application for New License in August 2014, two years before the current license expires in 2016. The FERC's application review process will take at least two years and will include significant opportunities for public input.

Duke Energy has heard from Stakeholder Team members and a number of neighbors around Lake Keowee who are quite concerned with the possibility that Lake Keowee could see lower lake levels in the future than have been seen in recent years. We have received the petition about the lake level issue that recently circulated, and we are sensitive to the concerns expressed. However, Duke Energy believes that premature actions now based on the petition could have a major detrimental impact on the Stakeholder Team's ability to reach a balanced Relicensing Agreement, thus significantly reducing the opportunities for local solutions to hydro project-related issues including the public water supply / lake

level issue. We request that no action be taken on the petition and instead allow the Stakeholder Team to complete its negotiation of a Relicensing Agreement. There will be plenty of opportunities for meaningful involvement in the FERC's process for issuing a New License in 2014 through 2016.

Those interested in staying informed about relicensing can do so through their Stakeholder Team representative, can visit the relicensing web site at [www.duke-energy.com/lakes/keowee-toxaway-relicensing.asp](http://www.duke-energy.com/lakes/keowee-toxaway-relicensing.asp) and can sign up to receive a community newsletter at [ktrelicensing@duke-energy.com](mailto:ktrelicensing@duke-energy.com).

#### **Stakeholder Team Member Organizations**

- Eastern Band of Cherokee Indians
- SC Department of Natural Resources
- SC Department of Parks, Recreation and Tourism
- SC Department of Archives and History
- Oconee County
- Pickens County
- Seneca Light & Water
- Greenville Water
- Pickens County Water Authority
- Friends of Lake Keowee Society
- Advocates for Quality Development, Inc.
- The Reserve at Lake Keowee
- The Cliffs at Keowee Vineyards
- Anderson Chamber of Commerce
- Warpath Development, Inc.
- Upstate Forever
- SC Wildlife Federation
- Duke Energy

#### **Other Organizations Active in the Stakeholder Process**

- SC Department of Health and Environmental Control
- US Army Corps of Engineers
- US Fish & Wildlife Service



## 2012 by the Numbers

Whew – thank goodness the end of the year is upon us! It certainly has been busy. Here's a brief recap of some of what's been going on in relicensing efforts by the numbers:

- \$4.2 million: The estimated cost of the relicensing studies Duke Energy began implementing this year
- 1,350: Approximate number of public recreation site user surveys conducted as part of the Recreation Use and Needs Study
- 520: The number of plant species identified by botanists during the Botanical Study
- 183: The number of composite interest statements developed by Stakeholder Team members
- 75: The number of pages in Duke Energy's Trial Balloon presented to the Stakeholder Team in September
- 60: The combined number of Stakeholder Team, Resource Committee, and study team meetings in 2012 (but it feels like more!)
- 14: The number of studies Duke Energy scientists and engineers have been working on this year
- 2066: The year through which the Water Supply Study water use projections extend
- 5: The number of stages in the Interim Low Inflow Protocol (LIP) implemented in February
- 3.75: The number of years until the New License for the Keowee-Toxaway Project is scheduled to be issued

All these numbers represent a significant amount of effort on the part of those involved in Keowee-Toxaway relicensing and there are many, many other efforts I didn't even mention. Despite the tremendous amount of work we've already done, there is still much to be done to develop the license application and ultimately

*Continued on page 2*

### Timeline Overview





receive a new license. In 2013, we'll be completing our relicensing studies, negotiating a relicensing agreement with the Stakeholder Team, and beginning work on the license application. As this effort progresses, we'll continue to issue updates like this one. If you want even more details, I encourage you to visit Duke Energy's Keowee-Toxaway Relicensing website for our relicensing filings.

Jen Huff

Keowee-Toxaway Relicensing Project Manager

## Keowee-Toxaway Stakeholder Team Negotiations – Focus on Keowee Lake Levels

Duke Energy is working with stakeholders to prepare an application for a New License to the Federal Energy Regulatory Commission (FERC) to continue operating Jocassee and Keowee hydroelectric stations. As part of this work, and after more than two years of discussions with stakeholders about their interests plus preliminary computer modeling, Duke Energy proposed its first draft Agreement-in-Principle (AIP), or Trial Balloon, in September 2012 to the Stakeholder Team as a starting point to guide discussion and negotiations.

The draft AIP includes recommendations for how Duke Energy proposes to operate Jocassee Pumped-Storage Station, Keowee Hydro Station and their respective reservoirs in the future. It addresses topics such as hydro operations, public recreation, shoreline management, water quality, public water supply, aquatic, wildlife, and botanical species protection and lake levels.

### Background

In the existing federal license for the Keowee-Toxaway Hydroelectric Project, the minimum allowable lake elevation for Lake Keowee is 775 feet above mean sea level (AMSL), or 25 feet below the full pond level of 800 feet. Duke Energy operated Lake Keowee with much more fluctuation in the 1970s and 1980s than today, with Lake Keowee recording its lowest level of 783.6 feet on November 28, 1981. Over time, Nuclear Regulatory Commission requirements for certain systems at Oconee Nuclear Station evolved, requiring Duke Energy to operate Lake Keowee within a much narrower range of 5.4 feet below full pond or higher since the mid-1990s.

### Proposal for Lake Keowee in normal (non-drought) conditions

Duke Energy's initial draft AIP proposes that Lake Keowee be operated between 795 feet and 800 feet (i.e., no lower than 5 feet below full pond) during all times of normal water availability. This is consistent with what lake users are accustomed to today. If incorporated by the FERC into the New License, 795 feet would become the lowest level allowed during non-drought conditions.

#### Stakeholder Team Member Organizations

Eastern Band of Cherokee Indians  
SC Department of Natural Resources  
SC Department of Parks, Recreation and Tourism  
SC Department of Archives and History  
Oconee County  
Pickens County  
Seneca Light & Water  
Greenville Water  
Pickens County Water Authority  
Friends of Lake Keowee Society  
Advocates for Quality Development, Inc.  
The Reserve at Lake Keowee  
The Cliffs at Keowee Vineyards  
Anderson Chamber of Commerce  
Warpath Development, Inc.  
Upstate Forever  
SC Wildlife Federation  
Duke Energy

#### Other Organizations Active in the Stakeholder Process

SC Department of Health and Environmental Control  
US Army Corps of Engineers  
US Fish & Wildlife Service

Continued on next page



Continued from previous page

### Proposal for Lake Keowee during droughts

Rainfall and the resulting stream flow into the reservoirs are the primary drivers for lake levels and the amount that Duke Energy can operate its hydro stations. To manage through the inevitable periods of reduced rainfall, the draft AIP also includes a Low Inflow Protocol (LIP), a plan for coordinating a basin-wide response to droughts. The LIP's intent is to manage shared water resources wisely to protect human health and safety and ensure the stability of regional public water supplies and the electric grid. It includes Stage 0 (watch stage) through Stage 4 (most severe) and outlines how Duke Energy's hydro generation and downstream flow releases will decrease to conserve water as drought stages intensify.

To support this drought plan, Duke Energy plans to modify Oconee Nuclear Station to allow it to operate at lower levels in Lake Keowee during severe, extended droughts—down to 790 feet or 10 feet below full pond. This modification has several important benefits including:

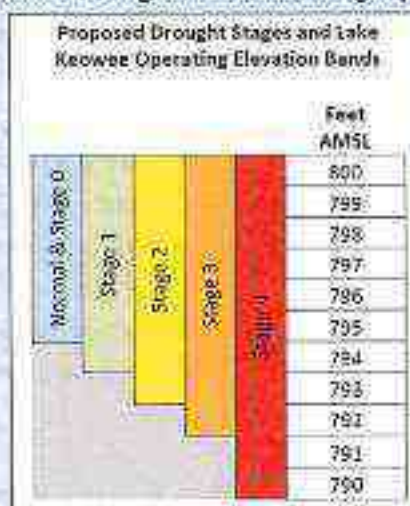
- **Protecting the Electricity Supply** – by providing greater drought resiliency for Oconee Nuclear Station—a 2,538 megawatt power plant that is vital to the regional economy and to Duke Energy's ability to provide electricity to our customers in the Upstate.
- **Supporting Economic Growth** – by providing more usable water storage to meet the water demand that will come with future economic growth.
- **Meeting Downstream Water Needs** – by extending the time that Duke Energy can make flow releases from Lake Keowee to support downstream water needs.

Under the current license, an extreme drought today could render Oconee Nuclear Station inoperable, with the possibility for Lake Keowee to go down to 25 feet below full pond. This is not desirable for public water suppliers, businesses, lake users or the community at large. This is particularly not desirable for Duke Energy as we want higher lake levels to: (1) get more efficiency

from our hydro units, (2) increase flexibility to use pumped storage, and (3) reduce risks of having to shut down Oconee Nuclear Station.

Certain conditions must be met before drought stages in the draft LIP could advance; therefore, Lake Keowee could go to 790 feet in Stage 4 only, the most severe drought stage. At 10 feet below full pond, public boat ramps at Duke Energy's recreation areas would still be available for most boats; however, we know many private residential docks would not be usable by most boats. The Stakeholder Team has been working on various ways to reduce that possible impact, including potentially allowing dock owners to move their floating structures to follow the water. A Stage 4 drought is quite severe and would lend itself to concerns about a host of regional water supply issues in addition to effects on public recreation.

An additional and very important aspect of the proposed LIP is that the maximum amount of water released from Keowee Hydro Station would decrease as the drought worsened. This would allow water levels in Lake Keowee to be maintained at higher levels for longer periods.



### Lake level modeling results

Duke Energy has conducted computer modeling to help estimate how often various lake elevations could be experienced given certain modeling assumptions. The model incorporates the last 70 years of hydrology (i.e., stream flow into the reservoirs) and considers potential climate change scenarios. Key results of the modeling to

Continued on next page



Continued from previous page

date include:

If the last 70 years of hydrology repeated itself, and Duke Energy operated as proposed in the draft AIP, we'd expect to see:

- Higher Lake Keowee levels about 25% of the time as compared to levels if Duke Energy continues operating as is done currently.
- Lake Keowee between 795 feet and 800 feet (i.e., no more than 5 feet below full pond) about 96% of the time.
- Lake Keowee below 793 feet but above 790 feet (i.e., between 7 feet and 10 feet below full pond) less than 1% of the time.
- Lake Keowee would only reach 790 feet in the late fall – early winter during only the most severe drought period.

Based on assessments from the Intergovernmental Panel on Climate Change, an international body that compiles climate change technical expertise from all over the world, Duke Energy modeled a potential climate change scenario where the last 70 years of hydrology repeats itself but is altered by an assumed temperature increase of 6 degrees Fahrenheit and an assumed 10% decrease in stream flow. In this scenario, we'd expect to see:

- Lake Keowee at 795 feet and above (i.e., no more than 5 feet below full pond) about 92% of the time.
- Lake Keowee below 793 feet but above 790 feet (i.e., between 7 feet and 10 feet below full pond) less than 2% of the time.
- Lake Keowee would reach no lower than 790 feet in the late fall – early winter during only the most severe drought period.

If the last 70 years of hydrology repeated itself, Duke Energy made no modifications to Oconee Nuclear Station, and the expected growth in water withdrawals occurred, Lake Keowee's level would still fall below 794.6 feet during severe droughts. As the region grows, maintaining the status quo with regard to levels at Lake Keowee during droughts is really not a viable option.

#### **Other components of the Trial Balloon**

In addition to the proposals discussed above, Duke

Energy's proposal addresses all the issues associated with the continued operation of the Project. The Trial Balloon is 75 pages long, so it will not be repeated here, but here are some highlights:

- **New Operating Agreement (NOA)** – Duke Energy will pursue a NOA with US Army Corps of Engineers (USACE) and Southeastern Power Administration (SEPA) to replace the existing 1968 Operating Agreement (see the January 2012 Community Newsletter for more information). Duke Energy would enter into a NOA only if it is consistent with Relicensing Agreement, including the Low Inflow Protocol (LIP).
- **Shoreline Management** – Duke Energy will file a new Shoreline Management Plan (SMP) that will require existing residential pier owners to remove un-encapsulated foam from their docks and will allow pier owners to unpin docks to move them further into the reservoir (i.e., "follow the water") during LIP Stages 2-4.
- **Public Recreation**: This section proposes new leases of land offered to local and state agencies, additional recreation facilities based on the results of the Recreation Use and Needs study, and new partnerships to promote safe boating at the Project and litter prevention with a focus on islands.
- **Enhancement Funds**: Duke Energy proposes to establish new enhancement funds
  - **Habitat Enhancement Program (HEP)** to create, enhance, and maintain aquatic and terrestrial habitat in and around Project reservoirs. The HEP would be funded by Duke Energy and through a fee charged to applicants for lake use permits
  - **Savannah River Water Resource Fund** to support water quantity planning and management initiatives in the Savannah River Basin
  - **Water Quality Fund** to be used for water quality-related activities (potential examples include development of a watershed model, water quality monitoring, septic system repair, etc.) on areas within the Project watershed

#### **Next steps**

The goal of Duke Energy and the Stakeholder Team is to bring to FERC a New License agreement that provides the

*Continued on next page*



*Continued from previous page*

best regional solutions as we consider limited water resources for the next half-century. If the Team is successful, FERC will give considerable deference to the local agreement in the New License. Otherwise FERC will issue a more standard license that will likely not be as attuned to local interests. The Stakeholder Team has been meeting since 2009 and has been working diligently with this broad mission in mind.

From this point, the Stakeholder Team will continue to amend and improve the draft AIP. Since September 2012, the Team has already suggested a number of improvements. Members also will consider and integrate the findings of 14 studies that Duke Energy has undertaken, an investment of \$4.2 million, to equip resource committee and Stakeholder Team members with the best data available. Work on the draft AIP will continue until May 2013, with a plan to have Stakeholder Team members sign a non-binding AIP in July 2013 and sign the final binding Relicensing Agreement in November 2013. Duke Energy will file its application for New License in August 2014, two years before the current license expires in 2016. The FERC's application review process will take at least two years and will include significant opportunities for public input.

## Study Assesses Eligibility for National Register of Historic Places Listing

Although relicensing involves significant planning for the future of water use and natural resources, honoring and protecting history is also a valuable aspect of this process.

The Federal Energy Regulatory Commission (FERC) is required to consider the effects of relicensing the Keowee-Toxaway Hydroelectric Project (Keowee-Toxaway Project) on significant archaeological and historic sites as defined by the National Historic Preservation Act (NHPA) of 1966.

Prior to relicensing, Duke Energy had already conducted archaeological surveys of the shoreline, access areas, and islands but had not assessed the Keowee-Toxaway Project structures themselves. Therefore, Duke Energy conducted an architectural survey of the Project structures in April 2012. The structures at the Keowee Development include Keowee Hydroelectric Station, the Little River Dam, the Keowee Dam, an intake structure, four saddle dikes, and the Oconee Nuclear Station intake dike. The facilities associated with the Jocassee Development include the pumped-storage station, Jocassee Dam, two intake structures, and two saddle dikes.

### A Look Back

Duke Power (as it was then known) had identified the

hydropower potential of the Keowee-Toxaway area in the early 1930s. The company decided to abandon initial projects in the area in favor of additional hydroelectric plants along the Catawba River. This was short-lived, however. With the need for additional power in the mid-twentieth century, Duke Power again looked to the Oconee and Pickens county area. In the early 1960s, the company resumed its purchase of land in the region. The Federal Power Commission, the FERC's predecessor agency, granted Duke Power a license to operate the Keowee-Toxaway Hydroelectric Project in 1966. The impoundment of Lake Keowee began in April 1970, and the facility went into commercial operation in April 1971.



The official groundbreaking on April 11, 1967 for the Keowee-Toxaway Power Project included South Carolina Governor Robert McNair (left) and Duke Power President W.B. McGuire (right) detonating a dynamite blast.

*Continued on next page*



*Continued from previous page.*

Construction began at Jocassee in January 1968, with the impoundment of the lake beginning in April 1971. More than 11 million cubic yards of earth and rock were required for construction of the rock and earthfill dam, which at the time of its construction, was the second highest in America. Commercial operation of the Jocassee Development began in 1973 when Units 1 and 2 were placed into service; Units 3 and 4 were placed into service in 1975.

The Keowee and Jocassee Hydroelectric Developments were planned and constructed as part of a comprehensive long-range multi-component power generation system called the Keowee-Toxaway Energy Project that included thermo-electric and pumped-storage projects. The only thermo-electric plant ultimately developed as part of the Keowee-Toxaway Energy Project was Dconee Nuclear Station. A number of additional pumped-storage facilities were also planned upstream of Lake Jocassee, but the only one constructed has been the Bad Creek Project.

The Keowee-Toxaway Energy Project met with critical acclaim from the engineering community. Duke Power received the prestigious Edison Award in 1972 and the Outstanding Civil Engineering Achievement Award bestowed by the American Society of Civil Engineers (ASCE) in 1975.

#### **The Study's Assessment**

The study concludes the Keowee-Toxaway Hydroelectric Project possesses historical significance for its associations with the Keowee-Toxaway Energy Project. However, the Keowee-Toxaway Hydroelectric Project is not yet 50 years of age and does not meet the threshold of "exceptional significance" required to be considered eligible for listing in the National Register of Historic Places. Collectively, the two hydroelectric developments will reach the 50-year milestone in 2022 and then will likely meet the criteria for listing. Duke Energy will assess the Keowee-Toxaway Project structures again at that time to confirm this determination and also to record any changes made in the interim.



Keowee Intake Structure, under construction in December 1968



Construction of Jocassee Powerhouse, October 1972, showing below-grade excavation

#### **So What**

*(does this mean for relicensing)?*

The results of this study will be incorporated into the Historic Properties Management Plan (HPMP) Duke Energy develops for the Keowee-Toxaway Project. The HPMP spells out the steps Duke Energy will take to address the management of both known and unknown significant archaeological and historic sites affected by operation of the Keowee-Toxaway Project, lake use permitting, recreation facility development, and other activities.



## Water Supply Study

The Water Supply Study Team recently received the Keowee-Toxaway Water Supply Study Final Report, representing the culmination of several years' worth of effort in gathering and analyzing water use data for the Savannah River Basin. This allows us to make projections for water needs in the region for the next 50 years and better informs relicensing decisions. This study focused heavily on water use projections in the Upper Savannah River Basin (Basin), evaluating water supply within Duke Energy and US Army Corps of Engineers' (USACE) operated reservoirs.

### Water Withdrawal and Return Projections Methodology

The initial step in the study involved developing reliable water withdrawal and return projections for the entire Savannah River Basin to the year 2066. In compiling the list of current water users, the Water Supply Study Team elected to focus on those users that currently withdraw or return from a surface water source an average daily rate of 100,000 GPD (or 0.1 mgd) or more from the Basin. While numerous users may withdraw or return water at rates less than 100,000 GPD, the net withdrawal produced by these users would be very small relative to the overall net withdrawal resulting from the users documented in this Study.

For the purpose of this study, the Savannah River Basin was delineated into 16 incremental watersheds, which are listed from the most upstream to downstream reservoir in Table 1.

This study addresses water use within all 16 watersheds. However, the primary focus of this study is water yield evaluation and drought response for the most upstream six watersheds.

While it was important to perform a detailed evaluation of each water withdrawal and return, the water use analysis focused on total net water usage within geographical watershed areas. Net withdrawal is the sum of all the water withdrawals in each watershed minus the water returns back to that particular watershed.

*Continued on next page*

### Water Supply Study Scope

1. Compile a list of individual water withdrawals and returns within the Basin  $\geq$  100,000 gallons per day (GPD)
2. Develop future projections for water withdrawals and returns within the Basin to the year 2066
3. Develop a Geographic Information System (GIS) database of withdrawals and returns in the Upper Savannah Basin including ownership information, physical descriptions, historical water use, and future projections
4. Determine water yields under current operating conditions for water supplies using the Duke Energy and USACE-operated reservoirs
5. Develop and evaluate data and information for use in refining the Keowee-Toxaway Interim Low Inflow Protocol (LIP)
6. Determine water yields based on the operating conditions being proposed as part of relicensing

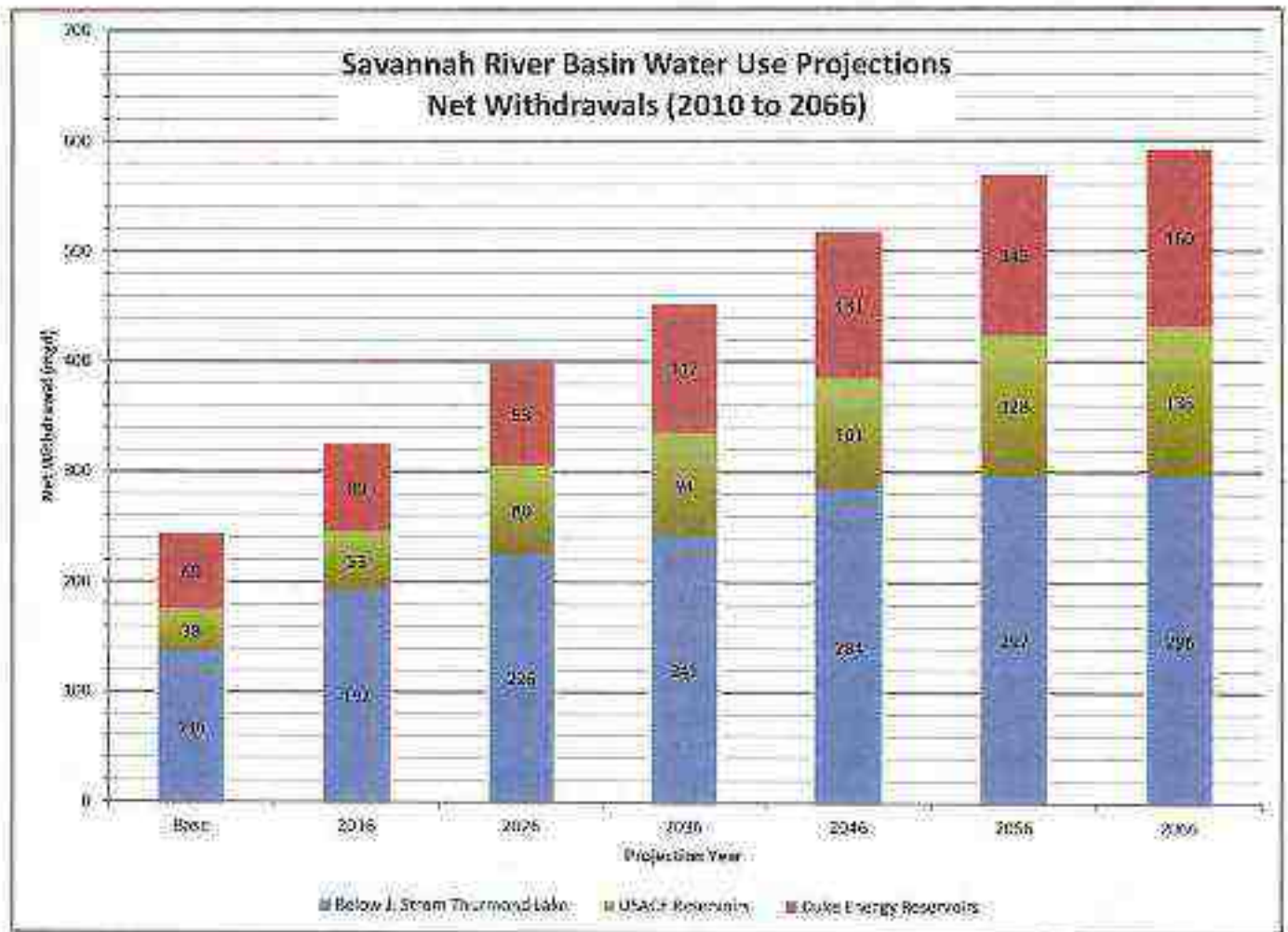
Table 1: Water Supply Study Watersheds

	Reservoir
Duke Energy Operated Reservoirs	Bad Creek
	Jocassee
	Keowee
USACE Operated Reservoirs	Hartwell
	Richard B. Russell
	J. Strom Thurmond
Reservoirs downstream of Thurmond Dam	Woodlawn
	Stevens Creek
	North Augusta
	Augusta Canal Diversion
	Augusta Canal Diversion Return
	Augusta
	Girard
	Millhaven
	Clyo
Below Clyo	



### Water Use Projection Results

The annual average net system withdrawals are shown in the following figure. Future net system withdrawals are shown for the base year (typically 2010) and 2016, 2026, 2036, 2046, 2056, and 2066. As illustrated in the figure below, the overall net withdrawal for the entire Basin is expected to increase from approximately 243 million gallons per day (mgd) to 592 mgd by the year 2066. This net withdrawal represents a more than doubling of the current net withdrawal rate.



### Water Yield Analysis

Using the water use projections developed for the study, "water yield" evaluations are being performed for Duke Energy and USACE-operated reservoirs. Water yield is a term used to describe the amount of water theoretically available at a given location in a watershed. It is a commonly used measure of the dependability of a water supply source during critical drought periods.

Water yield analyses are included in the study for the following operating scenarios below:

- Baseline Conditions (Baseline) Water Yield** – This analysis calculates water yields for the Keowee-Toxaway Project's reservoirs (combined Bad Creek, Jocassee, and Keowee Reservoirs) and USACE reservoirs (Hartwell, Russell, and Thurmond) using baseline, or current, operating conditions.

*Continued from previous page*

- **Proposed Operating Scenario Water Yield** – This analysis will calculate water yields for the Keowee-Toxaway Project reservoirs and USACE reservoirs using the Proposed Operating Scenario negotiated during the relicensing process. This water yield analysis will be completed after the Stakeholder Team has completed its negotiations and will be documented as an addendum to the Water Supply Study Final Report issued to the Study Team in October 2012. The results of each analysis will be compared with one another to determine the effects of the Proposed Operating Scenario on water yield in the Upper Savannah River Basin as compared to the Baseline.

#### **Interim Low Inflow Protocol**

Duke Energy, Greenville Water, and Seneca Light and Water previously developed and implemented an Interim Low Inflow Protocol (LIP) for the Keowee-Toxaway Project. The purpose of the Interim LIP is to establish procedures for conservation of water during periods of significant drought in the Upper Savannah River Basin. This agreement is in effect until November 2013.

The Interim LIP was developed on the basis that all parties with interests in water quantity will share the responsibility to establish priorities and conserve the limited water supply. In mid-2012, the Water Supply Study Team reviewed the existing Interim LIP and evaluated data related to past droughts to identify possible improvements to the Interim LIP. The Study Team members, as well as other stakeholders for the Keowee-Toxaway Project, have provided valuable input into the evaluation of the Interim LIP with a goal of developing an improved LIP to be included in Duke Energy's application for new license.

#### **Summary**

As you can see, much effort has gone into the development of this Water Supply Study, including a great deal of teamwork on the part of the Study Team members. While there is still some work to be done in 2013 with this study, the majority of the work has been completed. The results of this study provide valuable information as Duke Energy and the stakeholders move through the process of negotiating a new License Agreement and will be beneficial in helping determine how to manage water in the Savannah River Basin in the future.

#### **So What (does this mean for relicensing)?**

The data generated by the Water Supply Study regarding projected changes in water use were incorporated into the CHEOPS™ model used to model the effects of different Keowee-Toxaway Project operating scenarios. Given we know consumptive water use will increase during the term of the next license, knowing this information is vital for evaluating the effects of operational changes.

The work the Water Supply Study Team did to evaluate potential improvements to the Interim LIP is being used by the relicensing stakeholders as they revise the LIP proposed by Duke Energy in September.



## Reservoir Level and Project Flow Releases Study

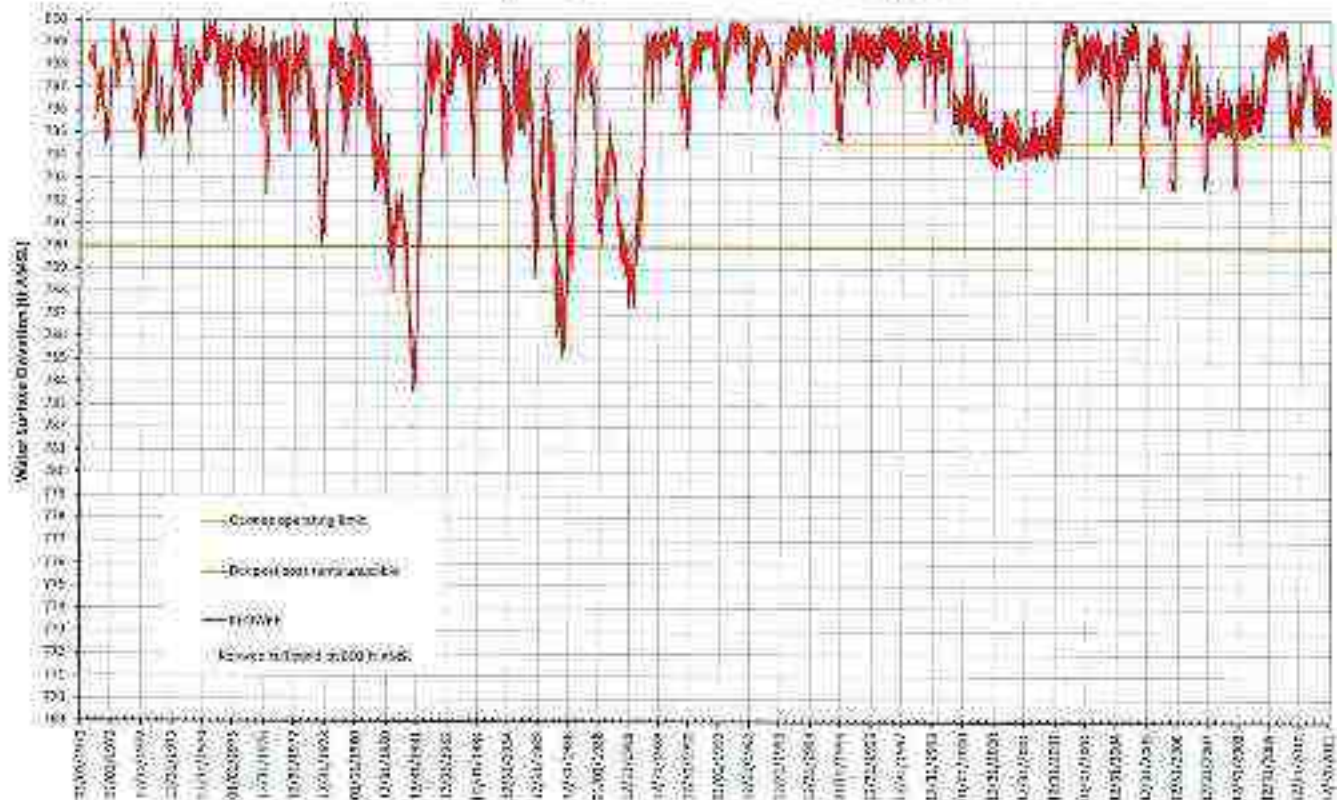
Many times, history can teach us quite a lot about what to expect going forward. Another one of our 14 studies was the Reservoir Level and Project Flow Releases Study that collected historic lake level and flow release data. This gives the Stakeholder Team a big-picture look at reservoir levels and flow releases since the beginning of commercial operations in the early 1970s.

After organizing the historic data into a computer database, the Study Team looked at the data in different ways and identified potential operating reservoir level bands for the New License term for the two reservoirs under non-drought conditions. The study team also evaluated possible drought drawdown ratios for each reservoir.

The study team identified the following potential non drought lake levels bands as consistent with historical operations:

- Lake Keowee: 795 ft – 800 ft (5-foot operating band)
- Lake Jocassee: 1080 ft – 1110 ft (30-foot operating band)

**LAKE KEOWEE WATER SURFACE ELEVATIONS  
APRIL 17, 1971, THROUGH DECEMBER 31, 2011**

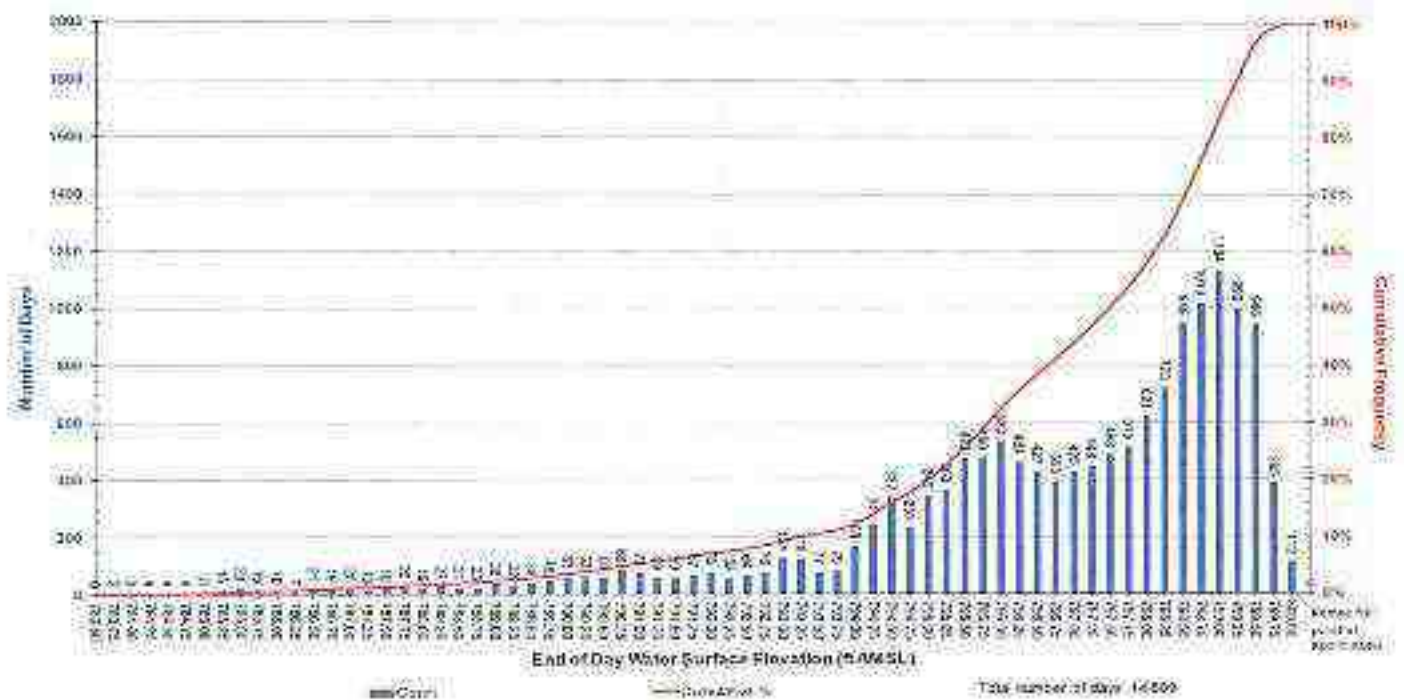


The figure above depicts historic reservoir elevations at Lake Keowee for the period 1971 – 2011. As you can see, the reservoir was operated over a much wider range prior to the 1990s when the Oconee Nuclear Station operating constraint came into effect to maintain the lake at 794.6 feet AMSL or above.

*Continued on next page.*



**LAKE KEOWEE LEVELS HISTOGRAM AND CUMULATIVE FREQUENCY CURVE  
APRIL 17, 1971, THROUGH DECEMBER 31, 2011**



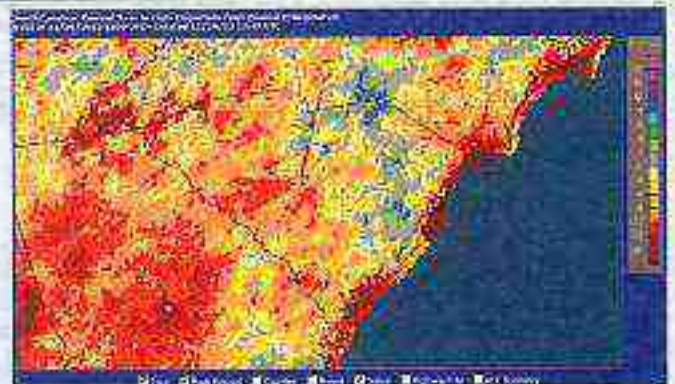
This figure above represents a cumulative frequency curve and can be used to determine the percentage of time reservoir elevations were above and below specific elevations. For example, Lake Keowee has been below 793.25 ft AMSL approximately 10% of the time during the period 1971 – 2011.

*Continued on next page*

**Keowee-Toxaway River Basin Water Resources Update Fall/Winter 2012**

It has been dry this fall – even more so than I had expected. As of this writing, we have received at Bad Creek, Jocassee and Keowee Hydro Stations 0.44, 0.33 and 0.54 inches of rainfall, respectively. The US Army Corps of Engineers has been keeping Hartwell Lake rainfall records since 1948. Thus far, they have received 0.89 inches of rain this month, which is lower than any previous November in their records (next lowest was 0.99 inches in 1950).

The National Ocean and Atmospheric Administration (NOAA) graphic below details the precipitation decline from the long-term average since January 1. If you can visualize where the Keowee-Toxaway River Basin is located, then you'll see areas showing a deficit of 2-12 inches since January 1. This is further substantiated by NOAA data for Greenville, SC, showing it is 9.3 inches below normal for the same period.



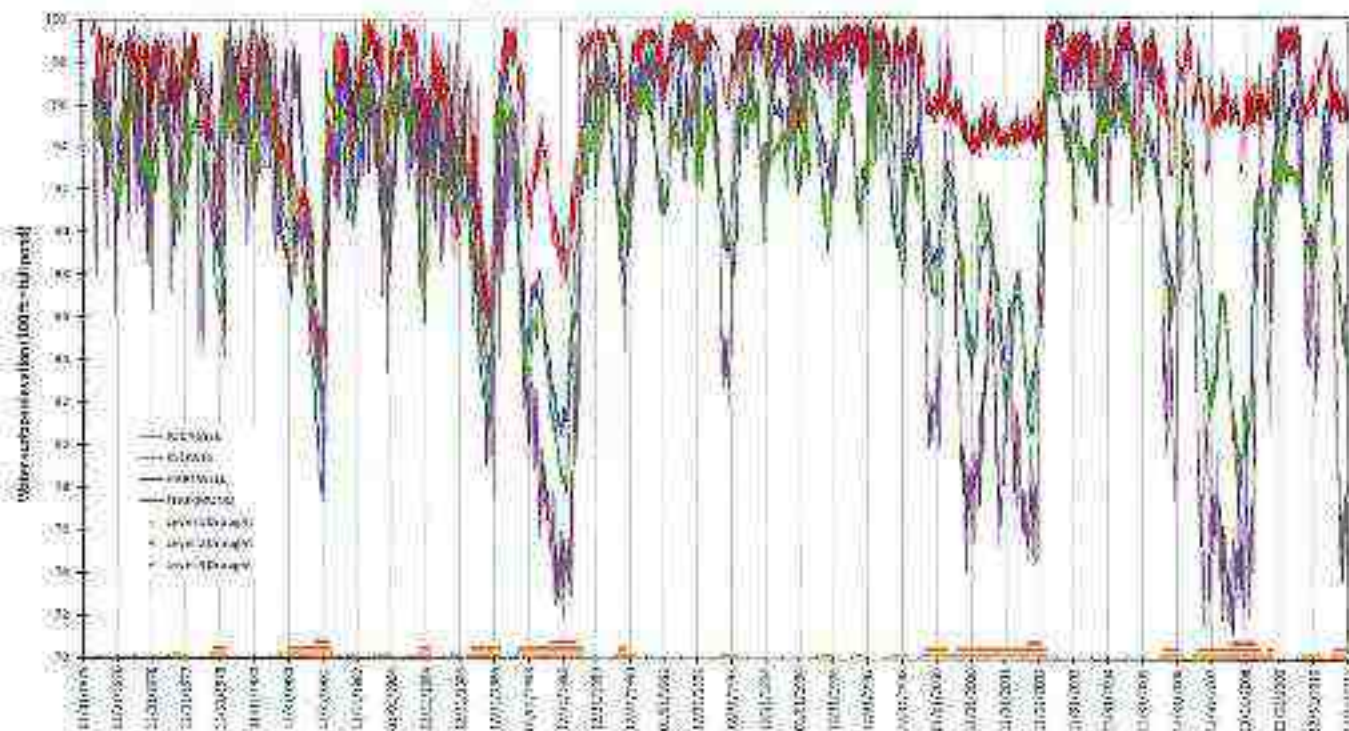
Source: National Ocean and Atmospheric Administration

While we are thinking about precipitation, we also have to think about evaporation, particularly from the lake surfaces, such as Lake Keowee. The Clemson-Seneca Airport has recorded 38.3 inches of precipitation through November 25, 2012, but also shows

*Continued on next page*



### USACE AND DUKE ENERGY RESERVOIR SURFACE ELEVATIONS MAY 1, 1975 THROUGH DECEMBER 31, 2011



This figure above demonstrates how the reservoirs included in the 1968 Operating Agreement (Jocassee, Keowee, Hartwell, and Thurmond) operated during the time period 1975 – 2011. All four reservoirs aligned in their reservoir elevations during the 1970s and into the 1980s. However, since the early 1990s when the Oconee Nuclear Station constraint was identified, Lake Jocassee has typically fallen much lower than the other reservoirs with Lake Keowee generally at or above 95 feet.

#### So What (does this mean for relicensing)?

These data are being used to understand how the Keowee-Toxaway Project has been operated to date and how those operations have changed over time. This information will be used to assess potential effects associated with operations in the future.

#### Continued from previous page

evaporation from an open water surface equivalent to 54.2 inches for the same period. We are fortunate to be having these dry conditions in November and not July, when, in 2012, the open water evaporation from Lake Keowee was estimated at 8.09 inches for the month. That evaporation equates to a stream flow of 200 cubic feet per second (cfs). Last week, I estimated the inflow to Lake Keowee at approximately 130 cfs, so at a different time of year, we would most certainly be evaporating substantially more than we're receiving.

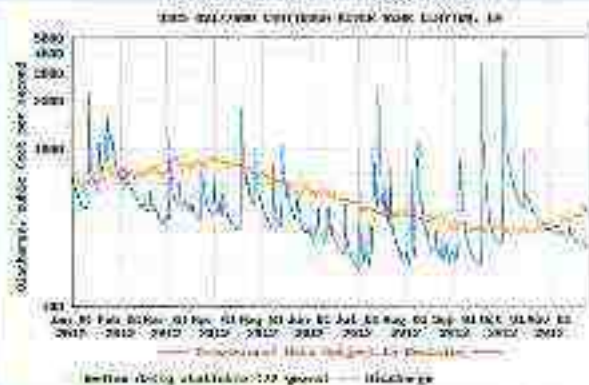
The Chattooga River USGS gage near Clayton, Georgia, has a 72-year record. Currently, the river has a flow of 233 cubic feet per sec (cfs), which for November 26 is at about the 17<sup>th</sup> percentile. That means that if we look back over the previous 72 years of data, 83 percent of the time stream flow was greater than 233 cfs. If we look at the graph below, it shows the Chattooga River since January 1 (blue line) as compared to the daily long-term average (gold line).

Continued on next page



Continued from previous page

Despite good rainfall in early October, stream flow has fallen to a point significantly lower than the long-term average. The current stream flow and associated runoff has not been sufficient to build any appreciable storage and higher lake levels at Keowee-Toxaway.



Source: USGS

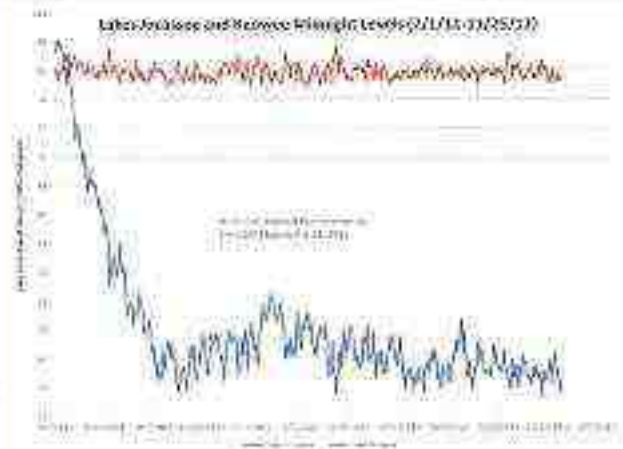
I think of lake level recovery in terms of significant rainfall, which I don't see likely in the near-term based on the weather forecast for late fall/winter (December – February). The tropical storm season is coming to an end, so the opportunities for a tropical storm to refill the reservoirs have diminished. Duke Energy's consulting meteorologist suggests December will be drier than normal, January will bring a normal probability for precipitation, and February will be drier than normal. The NOAA says the Keowee-Toxaway Basin has an equal chance of above, below or normal rainfall for the three-month period. In other words, they don't really provide much guidance.

Very simplistically, we have a look at the hydrologic cycle. Stream flows are lower than normal, and though the hot weather has passed (and with it, significant evaporation), the current trend is still for rainfall to run a deficit against open water evaporation rates. We are also seeing declining groundwater levels (see USGS graph below). The pattern we see suggests the annual groundwater recharge period that typically starts in late fall has not begun this year.



Source: USGS

Further, having had a summer with very warm temperatures, dry conditions and high customer demands, Duke Energy began making required flow releases to the US Army Corps of Engineers (USACE) the week beginning July 13, 2011. Without significant rainfall, dry conditions will likely continue to require weekly releases downstream to address Duke Energy's storage balance contract with the USACE. Without significant rainfall to help refill both Duke Energy's reservoirs as well as the downstream USACE reservoirs, Lake Jocassee will remain approximately 25 feet below full pond levels throughout the winter. Below is a graph of Keowee and Jocassee lake levels for the period July 1, 2011, to the present, which shows the daily cyclical pattern within our operating guidelines.



I will conclude this update by noting a recent woolly bear caterpillar forecast from the North Carolina

Continued on next page



*Continued from previous page*

mountains. Based on the caterpillar's reddish-brown bands, we should see snow and below average temperatures for the first five weeks of winter. The next six weeks will bring average to below average temperatures, with unusual cold in the twelfth week and more snow predicted for the final week of winter. What makes this interesting is that NOAA has made a forecast that suggests in the near-term we could see a negative phase in the North Atlantic Oscillation (NAO). Strong negative phases of the NAO are associated with below average temperatures. So what do the caterpillar and a negative phase NAO suggest for the Keowee-Toxaway Basin forecast? I will go out on a limb and suggest this may mean that we can expect a cooler and less snowy winter than Asheville, and, I am hopeful, a wetter year than last.

*George Galleher, P.E.*

*Duke Energy Carolinas Hydro Fleet Operations*

*(Prepared November 27, 2012)*

*For more information about KT Relicensing, check out the relicensing website at*

*[www.duke-energy.com/lakes/keowee-toxaway-relicensing.asp](http://www.duke-energy.com/lakes/keowee-toxaway-relicensing.asp)*

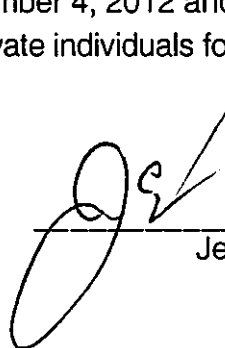
*To subscribe electronically to this newsletter, send an email to [ktrelicensing@duke-energy.com](mailto:ktrelicensing@duke-energy.com).*

**PUBLISHER'S AFFIDAVIT**

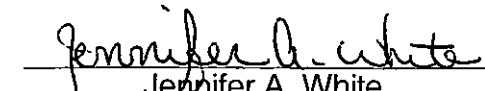
**STATE OF SOUTH CAROLINA  
COUNTY OF OCONEE**

**IN RE:           Oconee County Council  
                    Workshop Meetings  
                    December 20, 2012  
                    Re: Keowee Toxaway Relicensing**

**BEFORE ME** the undersigned, a Notary Public for the State and County above named, this day personally came before me, Jerry Edwards, who being first duly sworn according to law, says that he is the Publisher of **THE JOURNAL**, a newspaper published Tuesday through Saturday in Seneca, SC and distributed in **Oconee County, Pickens County** and the Pendleton area of **Anderson County** and the notice (of which the annexed is a true copy) was inserted in said paper on December 4, 2012 and the rate charged therefore is not in excess of the regular rates charged private individuals for similar insertions.

  
\_\_\_\_\_  
Jerry Edwards  
Publisher

Subscribed and sworn to before me this  
4th day of December A.D. 2012

  
\_\_\_\_\_  
Jennifer A. White  
Notary Public for South Carolina  
My Commission Expires: 05/18/2014



**RECREATION**

**138 MOTOR HOMES**



**2008 HOLIDAY RAMBLER XL**  
340 hp. Cummins Diesel, 4 slides, 21,500 mi., one owner, no smoking or pets. \$85,000.  
864-682-7474

**TRANSPORTATION**



**2008 PT CRUISER, AC, PW, CD, NEW TIRES/BRAKES GOOD SHAPE 50,000MI PAY OFF-8,500. 864-903-9032**

**155 SUVs**



**1999 FORD EXPLORER SPORT**  
Good condition. \$2100.  
864-653-0715

**159 TRUCKS**

**2001 FORD F150 Super Crew Lariat**, leather, auto, air, p/s, p/b, 6 disc CD, alum wheels, 2.6 V8, tinted glass, 4 tires fair, glass top, 1 owner. \$8550. 864-247-1095

**160 WANTED TO BUY**



**ALL JUNK CARS**  
We pay \$350 - \$1000 for cars, trucks, buses  
• Same Day - Free Pickup - Cash Paid  
864-844-3799  
864-376-2001

**TRANSPORTATION**

**161 AUTOS FOR SALE**



**2007 BURGUNDY 2WD, Chevy, 6sp, Trail Blazer, 162K Hwy. miles, dual & real air. Looks & runs great! \$8,000 OBO. Ken, 864-710-3778**



**2010 NISSAN MAXIMA, BLUE, LOADED, 50,050 MILES, GREAT SHAPE, SUN ROOF, 17,900. CALL 864-503-9032 ANY TIME.**



**HYBRID-SATURN VUE 2008, 87K, White, Gray Cloth, On Star, CD player, \$14,500 OBO Call 864-710-5760**

**LEGALS**

The Goosene County Council will hold Workshop Meetings on Thursday, December 20, 2012 at 8:30 p.m. in Council Chambers, Goosene County Administrative Offices, 415 S. Pine Street, Walhalla, SC with representatives from Duke Energy regarding Kettlee Taxway re-zoning.

The Goosene County Council will hold a workshop meeting with the members of the Legislative Delegation on Friday, December 14, 2012 at 9:00 a.m.

**LEGALS**

**ALL SAFE STORAGE GENECA**

Public Auction Notice of the following storage units containing personal and household items:  
UNIT 15 DENISE BROOKS; UNIT 25 SUSIE VANSTEEN; UNIT 30 MELODY WILKS; UNIT 112 RICKY AND CRYSTAL MAYES; UNIT 124 SCOTT VASSEY; UNIT 130 GARY DILLARD; UNIT 147 TASHA DENDY; UNIT 154 KAYLA SPARKS; UNIT 168 BARBARA EASTMAN; UNIT 195 CHEYENNE STRICKFADEN; UNIT 206 STEPHANIE SCOTT.

The entire contents of these units will be sold via public auction on Thursday, DECEMBER 20, 2012 at 9:00 a.m. at All Safe Storage-Seneca located at 600 Snitch Road in Seneca, SC 29679 unless paid in full.  
All Safe Storage  
Seneca  
P.O. Box 1174  
Seneca, SC 29679  
864-885-1006

**HOROSCOPES**

**ARIES (March 21-April 19)** papers and see what you need to make fir brighter future will h way you have been t matters. ★★ ★★

**TAURUS (April 20-May 20)** when dealing with a demands or trust in control, you will hav equality being neces  
**GEMINI (May 21-June 20)** for upcoming festive or surroundings to b ahead. Ask questions who will be influenc  
★ ★ ★ ★

**CANCER (June 21-July 21)** best. Choose a desti mind with ideas that seasonal investment creative thoughts an plans. ★ ★ ★

**LEO (July 23-Aug. 22)** old friend or lover. E and pastimes you us you get your life bac changes that will see

**VIRGO (Aug. 23-Sept. 22)** excitement will help those around you. Pl your plans for the fe year will help you fir made quickly. ★ ★ ★

**SERVIC BEST LOCAL**

**AUTOMOTIVE**

*Automotive Repair Service of Seneca*



Your **BMW** Auto Care Center

Hrs: 8:00-5:30 Monday-Friday

**CARPENTRY**

*Best Price Building Remodeling*

- Home Maintenance of all types
- Metal Roofing
- Vinyl Siding
- Ceramic Tile
- Hardwood Floors
- Decks
- Handicap Modifications

"My customers help me feed my family & I appreciate them."

US Veteran Discount



Oconee County  
Council Office

T. Scott Maulder  
Administrator

Oconee County  
Administrative Offices  
415 South Pine Street  
Walhalla, SC 29691

Phone: 864 718 1023  
Fax: 864 718 1024

E-mail:  
[tlmaulder@oconee.org](mailto:tlmaulder@oconee.org)

Paul Corbett  
Vice Chairman  
District I

Wayne McCad  
District II

Archie Barron  
District III

Joe Zink  
District IV  
Chairman

Reginald L. Dexter  
District V

.....LEGAL AD.....

**PLEASE ADVERTISE IN THE NEXT ISSUE  
OF YOUR NEWSPAPER**

**TO:** DAILY JOURNAL [classadmgr@dailyjm.com]  
**DATE:** November 26, 2012

The Oconee County Council will hold **Workshop Meeting** on Thursday, December 20, 2012 at 6:00 p.m. in Council Chambers, Oconee County Administrative Offices, 415 S. Pine Street, Walhalla, SC with representatives from Duke Energy regarding the Keowee Tauxaway relicensing.



**Beth Hulse**

---

**From:** Beth Hulse  
**Sent:** Friday, November 30, 2012 3:51 PM  
**To:** Beth Hulse; classadmgr@upstatetoday.com  
**Subject:** Workshop Meeting - 12/20/12  
**Attachments:** 112912 - CC Workshop with Duke - 12-20-12.doc

Please run at your earliest convenience.  
Thanks.

**Elizabeth G. Hulse**  
**Clerk to County Council**

Oconee County Administrative Offices  
415 South Pine Street  
Walhalla, SC 29691  
864-718-1023  
864-718-1024 [fax]  
[bhulse@oconeesc.com](mailto:bhulse@oconeesc.com)  
[www.oconeesc.com/council](http://www.oconeesc.com/council)

CONFIDENTIALITY NOTICE: This e-mail message, including any attachments, is for the sole use of the intended recipient(s) and may contain confidential, proprietary, and/or privileged information protected by law. If you are not the intended recipient, you may not read, use, copy, or distribute this e-mail message or its attachments. If you believe you have received this e-mail message in error, please contact the sender by reply e-mail or telephone immediately and destroy all copies of the original message.