KEOWEE-TOXAWAY DROUGHT MANAGEMENT ADVISORY GROUP
CONFERENCE CALL SUMMARY

Tuesday, January 9, 2018

Organizations Present
Beaufort-Jasper Water Sewer Authority (BJWSA)
City of Augusta, Georgia (Augusta Utilities)
City of Seneca
Duke Energy
Greenville Water, SC
HDR
National Weather Service, Greenville-Spartanburg, SC (NWS)
Southeastern Power Administration (SEPA)
South Carolina Department of Health and Environmental Control (SCDHEC)

Attendance Roll and Agenda Review
1. Ed Bruce of Duke Energy took attendance and reviewed the agenda.

Low Inflow Protocol (LIP) Status
2. As of January 1, 2018 the Keowee-Toxaway (KT) Project remained in Low Inflow Protocol (LIP) Stage 2 conditions as a result of the U.S. Army Corps of Engineers (USACE) continuing to be in Level 2 of their Drought Plan (DP) and the USACE reservoirs not recovering to lake levels that allow a return to Stage 1. Note, the 12-week rolling average of the U.S. Drought Monitor is in Normal condition and the 4-month long-term average stream flows are in Normal condition.

3. Mr. Bruce provided a review of drought conditions throughout the Upper Savannah River Basin based on data through January 9, 2018. Hartwell Lake is currently below the USACE DP Level 2 threshold elevation, and is projected to remain below the DP Level 2 elevation over the coming months, through March 2018. Thurmond Lake is currently above the DP Level 2 threshold elevation, but is projected to drop and remain below the DP Level 2 elevation in January and over the coming months, through March 2018. The Hartwell Lake elevation chart shows that the lake has not been as low as the current levels for this time of year, since 2012, and reflects a slightly declining trend in recent weeks.

4. The four-month rolling average streamflow is slightly below the seasonal long term average. The long-term average is beginning its seasonal increase, and it is likely the four-month rolling average streamflow will remain below the long-term average, in the absence of any significant inflow events over the coming weeks.

5. The U.S. Drought Monitor map for the southeast shows slight worsening drought conditions over the past month in the Upper Savannah River Basin and in the middle of North Carolina, South Carolina, and Georgia. A chart showing the intensity of historical drought since 2000, as based on the U.S. Drought Monitor, indicates the Upper Savannah River Basin reflects some re-emerging signs of dry conditions within the basin.

6. The Oconee County groundwater gage shows levels below the long-term average with the current reading of 30.14 feet below the surface and the monthly mean at 29.07 feet below
the surface. The McCormick County groundwater gage continues to be well below its long
term average with declining levels.

7. Mr. Bruce reviewed the Oconee Nuclear Station’s (ONS) consumptive water use and
cumulative natural reservoir surface evaporation for the three Duke Energy reservoirs in the
Upper Savannah River Basin. Consumptive water use in January is approximately 25.2
million gallons per day (MGD) and is expected to be approximately 25.0 MGD next month
(February) (based on long-term historical estimated consumptive water use). Cumulative
surface evaporation for all of Duke Energy’s reservoirs is estimated to be approximately 29.9
MGD in January. Surface evaporation rates are expected to begin increasing in February to
approximately 43.4 MGD.

8. Mr. Bruce reviewed the Keowee Development’s water releases to Hartwell during the
previous 4 weeks ending January 2nd. Average weekly total releases, including leakage and
seepage, for the month were 3,451 acre-feet per week (249 cubic feet per second or 161
MGD). Some of the releases for the period were required releases per the Operating
Agreement between Duke Energy and USACE to balance reservoir storage percentages
between the Keowee-Toxaway and USACE hydro projects.

9. Greenville Water reports 2017 rainfall at Table Rock and North Saluda were significantly
higher than 2016 and were slightly above the 10-year annual average, while Adkins is
higher than 2016 and slightly below the 10-year annual average. Table Rock Reservoir is
approximately 0.05 feet above full pond elevation, and the North Saluda Reservoir is
approximately 0.15 feet above full pond. Greenville Water also reported current flow
diversion of 30% from Keowee and 60% from Table Rock and North Saluda.

Update on Meteorology and Keowee-Toxaway Project Operations

10. Lynne Dunn (Duke Energy) provided a meteorology and operational update.

11. The regional precipitation for 2018 year-to-date is below normal for Greenville-Spartanburg;
Asheville, NC; and Hartwell Basin. Current rainfall for Greenville-Spartanburg, SC is 0.00
inches, Asheville, NC is 0.00 inches, and Hartwell Basin is 0.00 inches. Current departure
from normal for Greenville-Spartanburg, SC is -0.86 inches; Asheville, NC is -0.78 inches;
and Hartwell Basin is -1.33 inches.

12. According to NOAA data, observed precipitation shows there has been 2 to 4 inch departure
from normal rainfall within this area over the last 90 days.

13. The NOAA Long Term Palmer Drought Severity Index map through December 30, 2017
shows the Upper Savannah River Basin area as needing 6-9 inches of rainfall over the next
4 weeks to return to normal condition.

14. The NOAA short and medium term forecasts predict possibly 2 inches of rainfall for the next
7 days (January 8 to 15) and Below Normal precipitation for the 8 to 14 day outlook
(January 15 to 21). The January through March outlook projects Above Normal
temperatures and Below Normal precipitation for the basin. The April through June outlook
projects Above Normal temperatures and Equal Chance of Normal, Above Normal, or Below
Normal precipitation for the basin.

15. The Duke Energy meteorological forecast issued January, 2018 shows higher temperatures
and lower precipitation for the Keowee-Toxaway area in January and February.

16. Streamflow conditions are currently normal, but below the median at the Chattooga River
gage near Clayton, GA.
17. A chart depicting recent historical lake levels for Lake Jocassee and Lake Keowee indicates levels have been relatively constant in Lake Keowee during 2017 with increases since late-December. Decreasing levels have been observed in Lake Jocassee over the past few weeks since late-December as a result of balancing storage with USACE reservoirs downstream.

18. In summary, the KT LIP is in Stage 2 Condition. NOAA forecasters are suggesting below normal probability for precipitation through March. Duke Energy is suggesting below normal precipitation through February as well. Duke Energy continues to request water conservation efforts by water users relying on water stored in Lake Keowee, including watering restrictions for Lake Neighbors on Lake Keowee and Lake Jocassee.

19. Mr. Bruce stated that the KT-DMAG will continue with twice monthly calls.