KEOWEE-TOXAWAY DROUGHT MANAGEMENT ADVISORY GROUP
CONFERENCE CALL SUMMARY
Tuesday, October 11, 2016

Organizations Present
Duke Energy
City of Walhalla, SC
Georgia Environmental Protection Division (GA-EPD)
Greenville Water, SC
HDR
SC Department of Natural Resources (SCDNR)
SC Department of Health and Environmental Control (SCDHEC)
Seneca Light and Water, SC (City of Seneca)

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 October 1, 2016 the Keowee-Toxaway (KT) Project entered Stage 2 conditions due to continued hot weather and reduced rainfall and as a result of the USACE declaring Level 2 of their Drought Plan for the downstream federal projects on September 19, 2016. The streamflow trigger confirmed the Stage 2 declaration as streamflow also reached Stage 2 levels.

3. Mr. Bruce provided a detailed review of the individual LIP trigger conditions. Duke Energy usable reservoir water storage operates in tandem with the USACE usable reservoir water storage, per the New Operating Agreement. The U.S. Drought Monitor 12-week average trigger is showing LIP Stage 1 Condition. The four-month average streamflow trigger is currently in a Stage 2 condition and declining. The USACE drought conditions for both Hartwell Lake and Thurmond Lake are at Level 2 elevations and are projected to remain there through the end of 2016, but with continued declining lake levels and declining remaining usable water storage. Streamflows are following a typical seasonal pattern of fluctuation, but the four-month rolling average shows a significantly higher peak than normal early in the year (due to high rainfall events in the late Fall and early winter of 2015), followed by a steep decline over the past 6 to 8 months of 2016. Current levels are well below the long term average. The U.S. Drought Monitor map shows slight drought intensification in the Upper Savannah River Basin over the past month. A chart showing the intensity of historical drought since 2000, as based on the U.S. Drought Monitor, indicates the basin to now be entering a period of potentially significant drought after having experienced normal to wet conditions over the last three years. Both the Oconee County and McCormick County groundwater gages indicate levels remain near their respective long-term averages for this time of year.

4. Oconee Nuclear Station’s consumptive water use in October is approximately 21.3 million gallons per day (MGD) and is expected to be approximately 17.7 MGD next month (based on long-term historical water use). Cumulative surface evaporation for all of Duke Energy’s reservoirs in October located in the Upper Savannah River Basin is estimated to be
approximately 57.3 MGD and surface evaporation rates are expected to decrease in November to approximately 41.1 MGD. Surface evaporative rates are expected to continue to decrease with upcoming cooler seasonal conditions.

5. Ed Bruce reviewed the Keowee Development’s water releases to Hartwell during the previous month ending October 4th. Average weekly total releases, including leakage and seepage, for the month were 9,063 acre-feet per week (653 cubic feet per second or 422 MGD).

6. Greenville Water reports rainfall continues to be below average and reservoir levels are below normal for their system reservoirs. Approximately 1 inch of rain was received from Hurricane Matthew in the area. Table Rock Reservoir is approximately 12 feet below full pond elevation, and the North Saluda Reservoir is approximately 4 feet below full pond. Water treatment plant production levels continue to remain high, and Greenville Water has encouraged customers to conserve water through website notification and limiting outdoor watering to twice per week.

7. The City of Seneca reports water treatment plant production values are declining, and they are averaging 8 MGD production at their water treatment plan. Rainfall remains low, with only 0.8 inches recorded in September. The Seneca area remains 16 inches below average for the year-to-date.

Update on Meteorology and Keowee-Toxaway Project Operations

8. Mr. Bruce summarized recent precipitation patterns and meteorological predictions. The regional precipitation for 2016 year-to-date is below normal for Greenville-Spartanburg, SC (-7.22 inches), Asheville, NC (-6.7 inches), and Hartwell Dam (-16.23 inches).

9. According to NOAA data, the precipitation departure from normal over the last 180 days is 6 to 12 inches throughout the Upper Savannah River Basin. The NOAA Long Term Palmer Drought Severity Index map through October 1, 2016 shows the KT area as moderately to extremely dry and estimates the KT area needs 12-15 inches of rain to return to normal, as little positive impact from Hurricane Matthew was experienced. The NOAA short and medium term forecasts predict no rainfall for the next 7 days, equal chance of normal, below normal, or above normal precipitation for the 8 to 14 day outlook and below normal precipitation for the month of October. The NOAA temperature and precipitation outlook for the October to December period indicates equal chance of normal, below average, or above average temperatures and below normal precipitation for the period. The U.S. Seasonal Drought Outlook indicates additional drought development is likely for the Upper Savannah River Basin through December, 2016. Streamflow conditions are currently below normal, showing widespread dry conditions continuing in the Upper Savannah River Basin. Groundwater is has fallen below the long-term average.

10. In summary, the KT LIP is in Stage 2 Condition. USACE and KT lake storage continues to decline. USACE reservoirs are now in Level 2 Drought Plan conditions. Forecasters are suggesting below normal probability for precipitation for the October to December time period. Duke Energy continues to request water conservation efforts by water users relying on water stored in Lake Keowee, including two day per week (Tuesday and Saturday) watering restrictions for Lake Neighbors on Lake Keowee and Lake Jocassee.

11. The next KT-DMAG call is scheduled for October 25, per KT-LIP requirements, and will focus on USACE lake level projections.