KEOWEE-TOXAWAY DROUGHT MANAGEMENT ADVISORY GROUP
CONFERENCE CALL SUMMARY
Tuesday, November 7, 2017

Organizations Present
Beaufort-Jasper Water Authority, SC
Duke Energy
Greenville Water, SC
HDR
Powdersville Water District, SC
South Carolina Department of Health and Environmental Control (SCDHEC)
South Carolina Department of Natural Resources (SCDNR)

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 31, 2017 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 not recovering to lake levels that allow a return to Stage 1. Note, the 12-week rolling average of the U.S. Drought Monitor 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 November 7, 2017. Hartwell Lake is slightly below the USACE DP Level 2 entry elevation, but is projected to approach or exceed the DP Level 2 elevation as this threshold limit decreases after mid-October. Similarly, Thurmond Lake is below the DP Level 2 threshold elevation, but is also projected approach of exceed the DP Level 2 elevation over the coming months. Based on this projection, it is possible that reservoir levels could improve in December and rise above the DP Level 2 threshold elevations, at which time, the KT-LIP could potentially improve to Stage 1. 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 improved trend in recent weeks.

4. The four-month rolling average streamflow is slightly above the seasonal long term average, having improved over the past month.

5. The U.S. Drought Monitor map for the southeast shows slightly worsening drought conditions over the past month in certain areas with new indications of dryness in South Carolina and parts of Georgia, particularly in the middle of the Savannah River Basin. A chart showing the intensity of historical drought since 2000, as based on the U.S. Drought Monitor, indicates the Upper Savannah River Basin appears to be out of a moderate drought, which appears to be less severe than the last three notable droughts over the past 20 years.

6. The Oconee County groundwater gage shows levels below the long-term average with the current reading of 30.18 feet below the surface and the monthly mean at 29.80 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 November is approximately 18.2 million gallons per day (MGD) and is expected to be approximately 23.5 MGD next month (based on long-term historical water use, updated for 2016 estimated consumptive water use). Cumulative surface evaporation for all of Duke Energy’s reservoirs is estimated to be approximately 41.1 MGD in November. Surface evaporation rates are expected to decrease in December to approximately 27.9 MGD, as seasonal conditions into the winter continue to result in decreased natural surface evaporation rates.

8. Mr. Bruce reviewed the Keowee Development’s water releases to Hartwell during the previous 4 weeks ending October 31st. Average weekly total releases, including leakage and seepage, for the month were 13,029 acre-feet per week (938 cubic feet per second or 606 MGD). 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. Additionally, releases made for the week ending October 24th were also required for Oconee Nuclear Station operations.

9. Greenville Water reports rainfall at Table Rock and North Saluda are significantly higher than 2016 and above the 10-year, year-to-date (YTD), average, while Adkins is higher than 2016 and slightly below the 10-year YTD average. Table Rock Reservoir is approximately 0.25 feet above full pond elevation, and the North Saluda Reservoir is approximately 0.3 feet above full pond.

Update on Meteorology and Keowee-Toxaway Project Operations

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

11. The regional precipitation for 2017 year-to-date (per corrected slide sent following the call) is above normal for Greenville-Spartanburg, Asheville, NC, and Hartwell Dam. Current rainfall for Greenville-Spartanburg, SC is 49.48 inches, Asheville, NC is 50.04 inches, and Hartwell Dam is 52.64 inches. Current departure from normal for Greenville-Spartanburg, SC is +9.55 inches; Asheville, NC is +11.54 inches; and Hartwell Dam is +2.60 inches.

12. According to NOAA data, observed precipitation shows there has been 4 to 8 inches more rainfall than normal within this area over the last 90 days.

13. The NOAA Long Term Palmer Drought Severity Index map through October 28, 2017 shows the Upper Savannah River Basin area as having experienced improvement over the past several weeks.

14. The NOAA short and medium term forecasts predict about 2 inches of rainfall for the next 7 days (November 6 to 13) and a Below Normal precipitation for the 8 to 14 day outlook (November 13 to 19). The December through February outlook projects Above Normal temperatures and Below Normal precipitation for the basin.

15. The Duke Energy meteorological forecast issued October 10, 2017 shows Below Normal temperatures and Below Normal precipitation for the Keowee-Toxaway area through January.

16. Streamflow conditions are currently above normal.

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 increasing levels in recent weeks. Declining levels have been observed in Lake Jocassee over the past three months in order to balance 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 February. 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.