KEOWEE-TOXAWAY DROUGHT MANAGEMENT ADVISORY GROUP
CONFERENCE CALL SUMMARY

Wednesday, May 10, 2017

Organizations Present
Anderson Regional Joint Water System, SC
Beaufort-Jasper Water Sewer Authority, SC
Duke Energy
Greenville Water, SC
HDR
Southeastern Power Administration (SEPA)

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 April 30, 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) being in Level 2 of their Drought Plan (DP).

3. Mr. Bruce provided a review of drought conditions throughout the Upper Savannah River Basin based on data through May 10, 2017. The USACE drought conditions for both Hartwell Lake and Thurmond Lake are at USACE DP Level 2 levels and are projected to remain in DP Level 2 for the coming months. Hartwell Lake levels improved due to recent rain events and the lake is conservatively projected to increase by 1.0 foot to 653 by June; however this is still below DP Level 2. Similarly, Thurmond Lake levels are projected to increase from approximately EL 322.5 to EL 623 by June. The USACE needs 2 feet above the trigger lake level to improve its Drought Plan Level, while the Keowee-Toxaway Project LIP can recover to a lower stage when the USACE reservoirs reach their initial trigger level for that stage on recovery. If the Hartwell and Thurmond levels improve to at or above the Level 2 elevations, the K-T LIP can improve to Stage 1 conditions at that time. USACE reservoir levels are projected to begin declining again in July, prior to reaching Level 2 threshold elevations, under the assumption of inflow returning to 50% of normal (from current levels of 100% of normal).

4. Four-month rolling average streamflows continue to be well below the long term average. However, the seasonal upturn in observed streamflow is evident since mid-January 2017. The streamflow trigger should start to improve over the coming weeks as compared to the historical 4-month rolling average.

5. The U.S. Drought Monitor map for the southeast shows shifting and worsening drought conditions over the past month for parts of the southeast. The Upper Savannah River Basin has shown improvement while other parts of the Southeast have exhibited intensifying drought conditions. A chart showing the intensity of historical drought since 2000, as based on the U.S. Drought Monitor, indicates the Upper Savannah River Basin is clearly in a period of significant drought comparable to several other significant droughts over the past 20 years.
6. Both the Oconee County and McCormick County groundwater gages continue to be well below their long term averages, although the Oconee gage has shown recent improvement. The McCormick County gage level continues to decline.

7. Mr. Bruce reviewed the Oconee Nuclear Station’s 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 May is approximately 21.0 million gallons per day (MGD) and is expected to be approximately 24.9 MGD next month (based on long-term historical water use, updated for 2017 estimated consumptive water use). Cumulative surface evaporation for all of Duke Energy’s reservoirs is estimated to be approximately 97.6 MGD in May. Surface evaporation rates are expected to increase in June to approximately 108.2 MGD.

8. Mr. Bruce reviewed the Keowee Development’s water releases to Hartwell during the previous 4 weeks ending May 9th. Average weekly total releases, including leakage and seepage, for the month were 8,286 acre-feet per week (597 cubic feet per second or 386 MGD). All releases within the past four weeks have been required releases per the Operating Agreement between Duke Energy and USACE to balance reservoir storage percentages between the Keowee-Toxaway and USACE hydro developments.

9. Greenville Water reports improved rainfall levels during April and improvement in the levels of their system reservoirs. Table Rock Reservoir is approximately 0.15 feet above full pond elevation, and the North Saluda Reservoir is approximately 5.35 feet below 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 is above normal for Greenville-Spartanburg and below normal for Asheville, NC, and Hartwell Dam. Current rainfall for Greenville-Spartanburg, SC is 21.25 inches, Asheville, NC is 19.14 inches, and Hartwell Dam is 20.73 inches. Current departure from normal for Greenville-Spartanburg, SC is +4.61 inches; Asheville, NC is +3.64 inches; and Hartwell Dam is -1.24 inches.

12. According to NOAA data, observed precipitation shows there is a 2 to 4 inch rainfall deficit within this area over the last 90 days.

13. The NOAA Long Term Palmer Drought Severity Index map through May 6, 2017 shows portions of the Upper Savannah River Basin area as moderately and estimates the Upper Savannah River Basin area needs 6-9 inches of rain to return to normal.

14. The NOAA probability of precipitation, updated through April 12, 2017, shows there is a very limited (5% or less) chance of receiving enough rainfall over the subsequent four months to end the drought. The NOAA short and medium term forecasts predict +/- 1 inch of rainfall for the next 7 days and a below Normal chance of precipitation for the 8 to 14 day outlook. The May to July outlook projects above Normal temperatures and an equal chance of Above, Normal, or below Normal precipitation for the basin. It should be noted some of the charts used for these probabilities do not include the most recent rainfall events.

15. The U.S. Seasonal Drought Outlook, released on April 20, 2017, indicates drought continues are forecast to persist through the end of July 2017.

16. Streamflow conditions have been significantly low, but have demonstrated recent improvement due to rainfall.

17. A new chart depicting recent historical lake levels for Lake Jocassee and Lake Keowee indicates levels have been holding steady, aided by the recent rainfall.
18. In summary, the KT LIP is in Stage 2 Condition. Forecasters are suggesting an equal chance of above, below or normal probability for precipitation for the period of May to July. USACE reservoir levels are in DP Level 2. 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. In closing, Mr. Bruce indicated the next LIP condition update would be issued in late May. Additionally, Mr. Bruce suggested the KT-DMAG hold off consideration of drafting a media release, due to improved conditions and recent rainfall within the basin.