Appendix 1:

Three annual exceedance probability (AEP) curves calculated using the Expected Moments Algorithm (EMA) method are used to compare 100-year (AEP 0.0100) annual peak streamflows at 12 streamflow-gaging stations, measured from initiation of the period of record (POR) at each streamflow-gaging station through 1990, 2015, and 2016. Annual peak streamflows (Q) are expressed in cubic feet per second (ft³/s).
A 100-year streamflow (AEP 0.010) of 20,800 ft$^3$/s in 1990 (blue curve), is equivalent to an 83-year streamflow (AEP 0.012) in 2015 (green curve), and to a 59-year streamflow (AEP 0.017) in 2016 (red curve).

Figure 1-1. Annual exceedance probabilities in relation to streamflow for U.S. Geological Survey streamflow-gaging station 02013000, Dunlap Creek Near Covington, Virginia, for the period of record through 1990, 2015, and 2016.
A 100-year streamflow (AEP 0.010) of 79,130 ft³/s in 1990 (blue curve), is equivalent to an 100-year streamflow (AEP 0.010) in 2015 (green curve), and to a 77-year streamflow (AEP 0.013) in 2016 (red curve).

Figure 1-2. Annual exceedance probabilities in relation to streamflow for U.S. Geological Survey streamflow-gaging station 03183500, Greenbrier River at Alderson, West Virginia, for the period of record through 1990, 2015, and 2016.
A 100-year streamflow (AEP 0.010) of 81,560 ft³/s in 1990 (blue curve), is equivalent to an 91-year streamflow (AEP 0.011) in 2015 (green curve), and to a 67-year streamflow (AEP 0.015) in 2016 (red curve).

Figure 1-3. Annual exceedance probabilities in relation to streamflow for U.S. Geological Survey streamflow-gaging station 03184000, Greenbrier River at Hildale, West Virginia, for the period of record through 1990, 2015, and 2016.
A 100-year streamflow (AEP 0.010) of 24,030 ft³/s in 1990 (blue curve), is equivalent to an 91-year streamflow (AEP 0.011) in 2015 (green curve), and to a 56-year streamflow (AEP 0.018) in 2016 (red curve).

Figure 1-4. Annual exceedance probabilities in relation to streamflow for U.S. Geological Survey streamflow-gaging station 03186500, Williams River at Dyer, West Virginia, for the period of record through 1990, 2015, and 2016.
A 100-year streamflow (AEP 0.010) of 37,150 ft³/s in 1990 (blue curve), is equivalent to an 100-year streamflow (AEP 0.010) in 2015 (green curve), and to a 77-year streamflow (AEP 0.013) in 2016 (red curve).

Figure 1-5. Annual exceedance probabilities in relation to streamflow for U.S. Geological Survey streamflow-gaging station 03187000, Gauley River at Camden-on-Gauley, West Virginia, for the period of record through 1990, 2015, and 2016.
Figure 1-6. Annual exceedance probabilities in relation to streamflow for U.S. Geological Survey streamflow-gaging station 03187500, Cranberry River near Richwood, West Virginia, for the period of record through 1990, 2015, and 2016.

A 100-year streamflow (AEP 0.010) of 15,650 ft³/s in 1990 (blue curve), is equivalent to an 125-year streamflow (AEP 0.008) in 2015 (green curve), and to a 125-year streamflow (AEP 0.008) in 2016 (red curve).
A 100-year streamflow (AEP 0.010) of 73,770 ft³/s in 1990 (blue curve), is equivalent to an 111-year streamflow (AEP 0.009) in 2015 (green curve), and to a 71-year streamflow (AEP 0.014) in 2016 (red curve).

Figure 1-7. Annual exceedance probabilities in relation to streamflow for U.S. Geological Survey streamflow-gaging station 3189100, Gauley River near Craigsville, West Virginia, for the period of record through 1990, 2015, and 2016.
A 100-year streamflow (AEP 0.010) of 13,740 ft³/s in 1990 (blue curve), is equivalent to an 111-year streamflow (AEP 0.009) in 2015 (green curve), and to a 21-year streamflow (AEP 0.048) in 2016 (red curve).

Figure 1-8. Annual exceedance probabilities in relation to streamflow for U.S. Geological Survey streamflow-gaging station 03190000, Meadow River at Nallen, West Virginia, for the period of record through 1990, 2015, and 2016.
A 100-year streamflow (AEP 0.010) of 9,369 ft³/s in 2015 (green curve), is equivalent to an 34-year streamflow (AEP 0.029) in 2016 (red curve).
A 100-year streamflow (AEP 0.010) of 9,369 ft³/s in 1990 (blue curve), is equivalent to an 42-year streamflow (AEP 0.024) in 2015 (green curve), and to a 36-year streamflow (AEP 0.028) in 2016 (red curve).

Figure 1-10. Annual exceedance probabilities in relation to streamflow for U.S. Geological Survey streamflow-gaging station 03191500, Peters Creek near Lockwood, West Virginia, for the period of record through 1990, 2015, and 2016.
A 100-year streamflow (AEP 0.010) of 33,500 ft³/s in 1990 (blue curve), is equivalent to an 83-year streamflow (AEP 0.012) in 2015 (green curve), and to a 67-year streamflow (AEP 0.017) in 2016 (red curve).