ensure errors are not made – especially in the estimation of larger floods. Where serious discrepancies (20%+) are encountered in the findings between the two methods, special studies may be required. These special studies should consist of comparison with regression equations, application of other flood-frequency methods, and the collection and analysis of historical data. Outliers should be examined using the procedure found in Water Resources Council Bulletin 17B.

The U.S. Geological Survey has developed a computer program entitled "PEAKFQWIN" for performing Log Pearson Type III computations. It is available for downloading at the following location: http://water.usgs.gov/software/PeakFQ/.

Gage data may be obtained from various publications including "Annual Maximum Stages And Discharges of Selected Streams In Virginia", prepared by the U.S. Geological Survey. For additional information contact: District* Chief, U.S. Geological Survey, Richmond, Virginia, phone (804) 261-2639. Historical NWIS-W gage data for Virginia (currently over 584 gaging locations) can also be obtained from the USGS web site.

6.4.4.6.3 Skews

Skewness is a measure of asymmetry or lop-sidedness of a statistical distribution. The skew coefficient is defined as the skewness divided by the cube of the standard deviation. Skew coefficients play an integral role in the Log-Pearson analysis.

There are two alternative methods for determining the value of the skew coefficient to be used in calculating the Log-Pearson curve fit. The value of skew that is calculated directly from the gage data is called the station skew. This value may not be a true representation of the actual skew of the data if the period of record is short or if there are extreme events in the period of record. WRC Bulletin 17B contains a map of generalized skew coefficients of the logarithms of annual maximum streamflows throughout the United States and average skew coefficients by one degree quadrangles over most of the country.

Often, the station skew and the generalized skew can be combined to provide a better estimate for a given sample of flood data. Bulletin 17B outlines a procedure for combining the station skew and the generalized skew to provide a weighted skew.

6.4.4.6.4 Transposition of Data

The transposition of design discharges from one basin to another basin with similar hydrologic characteristics is accomplished by multiplying the design discharge by the direct ratio of the respective drainage areas raised to the power shown in Table 6-7. Thus on streams where no gaging station is in existence, records of gaging stations in nearby hydrologically similar watersheds may be used. The discharge for such an ungaged stream may be determined by the transposition of records using a similar procedure. This procedure is repeated for each available nearby watershed and the

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