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Sent: Monday, March 01, 2004 5:08 PM
To: 'Genovese, Linda C HQ02'
Cc: marlindah@aol.com; Jery Stedinger; Margo_Schwab@omb.eop.gov;
'Douglas Hamilton'
Subject: Addition to 2-23-04 RFC

Linda,

Further to the conversation you and I had last Friday, this e-mail further clarifies our basis for stating that the Corps of Engineers' (COE) documentation confirmed the validity of our Request-For-Correction (RFC) during our discussions with the COE over the past several months. The primary documentation is: "The adopted skew value of -0.2 was selected based on (1) the generalized skew map in WRC Bulletin #17B (Revised) which indicated a variation in skew from -0.3 at the coast to zero at 50 miles inland, and (2) the general shape (negative skew) of graphically drawn discharge frequency curves for Day, East Etiwanda, and San Sevaine Creeks that were developed in 1970 for damage frequency studies on those streams." This statement is in the second paragraph of the e-mail from Joe Evelyn to Doug Hamilton dated February 26, 2001 at 4:15pm that was contained in the e-mail from David Wingerd to Martin Becker dated January 16, 2004 at 3:12pm (Item #6 of the ATTACHMENT the Request For Correction dated February 23, 2004 and attached to this e-mail as "Joe Evelyn's 2001 e-mail").

The statement in Joe Evelyn's 2001 e-mail describes the procedure that the COE used to determine the skew coefficient for its 100-year flow computation for Day Creek in its 1999 Report. A skew coefficient is a mathematical description of the non-symmetric characteristics of the data in a flood flow frequency computation used to determine the 100-year flow. Because the determination of the 100-year flow is very sensitive to the skew coefficient, use of an incorrect skew coefficient will result in an inaccurate 100-year flow value.

Bulletin 17B sets forth the Federal government's guidelines for computing flood flow frequency analysis for 100-year flow computations, including the Federally-required

method for computing skew coefficients. These guidelines were adopted to establish uniform analytic methods across government programs and projects, and to avoid the use of arbitrary or conclusion-driven “professional judgment”. In its 1999 Report that the COE has continued to disseminate through the time of our RFC, the COE represented itself as having followed the analytic standards established in Bulletin 17B. The statement from the 1999 Report was: “Discharge-frequency analyses were performed on both of these stream gages using the Hydrologic Engineering Center’s Flood Frequency Analysis (FFGA) computer program. The FFA program is based on the ‘Guidelines for Determining Flood Flow Frequency, Bulletin 17B’ by the Hydrology Subcommittee, revised September 1981. The techniques presented in Bulletin 17B have been adopted for all Federal planning water and related land resources. FFA results for Day Creek are presented in Exhibit 1.” As documented in Joe Evelyn’s 2001 e-mail, this COE assertion that the COE followed the Bulletin 17B standards is not correct. Bulletin 17B sets forth very specific standards for establishing skew coefficients. This Bulletin requires that the adopted skew coefficient be the result of averaging both (1) the skew coefficient determined using the record at the gaging station and also (2) the regional skew coefficient as computed based on regional information (using a map provided in Bulletin 17B or an appropriately computed alternative).

Joe Evelyn’s 2001 e-mail confirms that the COE used only the regional skew coefficient as its basis for its adopted skew coefficient in its 1999 Report. It failed to average in the skew coefficient determined using the record of the gaging station. Moreover, Joe Evelyn’s 2001 e-mail confirms that the COE used a regional skew coefficient that was not derived from the Bulletin 17B map. An alternative skew coefficient is allowed by Bulletin 17B only if the alternative is developed using specific guidelines for the mathematical computation and the number of records necessary (20) that make the analysis statistically reliable. However, as described in Joe Evelyn’s 2001 e-mail, the COE did not use such a quantitative mathematical process; instead, the COE employed only 3 stations, one of which was Deer Creek, the subject of the Report. Moreover, they used a graphical process that is inconsistent with Bulletin 17B to generate

a skew coefficient that is not consistent with a quantitative analysis of their data. Therefore, the method used by the COE for determining a skew coefficient in the 1999 Report is not in accordance with Bulletin 17B.

The COE's 100-year flow computation for Day Creek in the 1999 Report is not in compliance with Bulletin 17B (as it represented) because the COE adopted the regional skew coefficient for the computation without the required averaging with the skew coefficient for the data available at the site, and the skew coefficient lacked a mathematical basis and the required data for its determination. As a result of using an incorrect adopted skew coefficient in its computation, it computed a 100-year flow at Day Creek of 3396 cfs instead of a 6,664 cfs that results from the correct implementation of Bulletin 17B. This explanation and the pertinent guidelines for the determination of the correct skew coefficient are fully documented in Item #1 of the ATTACHMENT to our February 23, 2004 RFC that is attached for your convenience as "12-10-03_Bulletin-jrs3".

Our attempt to encourage the COE to voluntarily correct its 100-year flow computation for Day Creek in its 1999 Report is not required by the National Data Quality Act regulations; however, we did so in an effort to help both sides avoid the costs associated with the RFC. At no time during our discussions over last several months did the COE challenge the corrected computation for the 100-year flow for Day Creek that we presented. For that reason, if the COE is not yet prepared to correct its computation of the 100-year flow at Day Creek in its 1999 Report in accord with our RFC, we respectfully request that the opportunity to formally present our request to the person in the COE who will be responsible for the review and resolution of our RFC.

Please confirm by e-mail your receipt of this e-mail and your ability to open the attachments. If you have any questions or comments, please call me at 404-876-3900.

Thanks,

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