

# RESPONSES OF ROBERT J. BRANDES CONSULTING TO TCEQ REVIEW COMMENTS ON DRAFT REPORT FOR RIO GRANDE WAM UPDATE

August 31, 2021

Responses from Robert J. Brandes Consulting to the following TCEQ Review Comments on the Draft Report for Updating the Rio Grande WAM are highlighted with bold text.

## TCEQ Review Comments:

### General Comment

- Correct the data in column 1 in Tables 12a. – 12d and 14.a – 14.d. The data in this column is not the CPID in the WAM although it is a portion of the name for the naturalized flow workbook for the gage.

**The correct Control Point IDs have been inserted in column 1 of all tables, and in the second column of all tables, the Work Book ID has been added after each gage name.**

- Consider revising the title for column 2 in Table 6. Column 1 has the control point number which is also the CPID used in the WAM. It appears that the data in column 2 labeled C.P. ID references a portion of the name of the naturalized flow workbook for the gage.

**The title for column 2 has been changed to NAT FLOW WORK BOOK ID.**

- Staff reviewed the draft WAM files and did not find errors in the files. Although naturalized flows were set to zero for interior gages in Mexico, when the model is executed, there are regulated flows at some of those gages during the early part of the extended period. It would be helpful to add a clarification in the report explaining why this occurs.

**A paragraph addressing this issue has been included in the report at the end of Section 9.1.**

### Chapter 7 General comment

- It would be helpful to add a table of the primary control points used in the naturalized flow process after Figure 10, including the gage name, gage number, and WAM control point ID to serve as a quick reference. If a new table is added, it should be referenced in Section 7.0 and any subsequent tables should be renumbered and the text references to those tables adjusted accordingly.

**This new table has been added to the report as Table 6 in Section 7.0 immediately before Figure 10. All subsequent tables have been renumbered with revised text references.**

## Section 7.2 – Streamflow Channel Losses

- Consider adding a sentence explaining why it is acceptable to use the loss rates calculated for the earlier study.

**A sentence has been added to the first paragraph in Section 7.2 indicating that use of the original loss factors is considered appropriate for the extended 2001-2018 period because there is no indication that channel conditions with regard to channel seepage, evaporation, and plant update have changed since 2000.**

## Section 7.4.2 Pecos River at Red Bluff Gage

- Consider adding a brief sentence discussing the Compact accounting's 3-year moving average.

**A sentence has been added to the last paragraph of Section 7.4.2 noting that while Article VI(b) of the Pecos River Compact stipulates that annual accounting shall be based on flows over successive three-year periods, the adjustments made to the annual Pecos River flows to reflect full-compliance conditions are considered to be sufficiently accurate for purposes of specifying Pecos River inflows to the updated Rio Grande WAM.**

- Table 9, column 3 (Over/Under Compact Deliveries) should be revised to “Annual Over (+)/Under (-) Pecos River Compact Deliveries”.

**This change has been made to this table, which now is Table 10.**

## Section 7.6.2

- Consider adding an additional sentence explaining why using the previous regression equations for Juno is appropriate. Staff assumes that this is because watershed changes over the last two decades appear to be negligible.

**In response to this comment, the following text has been added to the end of the first paragraph under Section 7.6.2:**

**Use of these regression equations is considered appropriate based on an analysis of the cumulative Devils River near Pafford Crossing naturalized flows for the 1940-2018 period. The time-series single-mass graph of these flows indicates no appreciable deviations, suggesting that there have been no significant changes in the watershed conditions for the Devils River near Pafford Crossing gage over this period; therefore, the original relationships between monthly flows at this gage and at the Devils River near Juno gage are considered to be appropriate for application to the 2001-2018 period.**

## Section 7.7

- Consider providing further explanation on adjustments for negative incremental naturalized flows. TCEQ staff agree with the process used to allocate positive or negative incremental flows between the U.S. and Mexico. However, the text correctly

states that there are still remaining negative incremental flows, which would be dealt with in the simulation using Option 5. Why is this acceptable?

**In response to this comment, the text in Section 7.7 of the report has been modified and expanded, and an Appendix B has been added to the report to provide additional information regarding the occurrence and magnitude of total and incremental naturalized flows for the 1940-2018 period and how these negative naturalized flows have been addressed for purposes of the final inputs to the updated WAM.**

Minor typographic errors:

- The last sentence of the first paragraph in Section 1.2 should be edited for clarity.

**This sentence has been revised as follows:**

**This approach involved the same basic work tasks and subtasks, as listed below, with some modifications to accommodate an alternate procedure that has been used for representing Mexico tributary inflows to the Rio Grande as described in Section 3.0 of this report.**

- There are several small typographical errors in the report that should be corrected.

1) Second paragraph on Page 78, second sentence has a duplicate word “for”.

**Duplicate word “for” has been deleted.**

2) Typo in 6.3.4 second sentence.

**The word “of” has been deleted in the first sentence.**

3) Page 76 second paragraph first sentence should be primary control points.

**The word “primary” has been added to “control points”.**