



January 6, 2010

Mr. John Bailey, P.E.  
ADEQ  
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**VIA ELECTRONIC MAIL**

Re: Quality Assurance Project Plan (QAPP)

John,

The City of Siloam Springs is appreciative for the opportunity to provide the following comments pertaining to the draft QAPP proposed by the EPA Region VI.

1. EPA is initiating a TMDL study with a budget in excess of 500k while they have already funded (300k) a watershed management plan for the Illinois River in Arkansas (through a 319 Grant) that is designed to accomplish virtually the same goal; determine what level of nutrient reductions are needed to meet the water quality standard and prioritize what sources (agriculture, point sources, urban, etc) to target for reductions (Section 1 of the QAPP, last paragraph). EPA is short-circuiting the watershed management process by developing a TMDL before positive results can be realized through implementation of the watershed management plan. Element h of EPA's 9 required elements for watershed management plans indicates that the watershed management plan is designed to reduce pollutants in order to meet water quality standards. Therefore, the watershed management plan should be taking the place of a TMDL.
2. EPA encourages the inclusion of stakeholder groups in all kinds of environmental arena's including the watershed management process. In fact, EPA states in their Handbook for Developing Watershed Plans to Restore and Protect Our Waters (EPA 841-B-05-005) that "...it is critical to build partnerships with key interested parties at the outset of the watershed planning effort." This "critical" step has been all but skipped in this TMDL process, which is tightly bound to the watershed planning process. EPA should retract the existing QAPP, develop an appropriate stakeholder group, revise the QAPP per stakeholder recommendations and experience (if a TMDL is still determined to be necessary) and move forward from there.
3. The firm under contract with EPA to complete the modeling for the TMDL has previously worked for the Oklahoma Department of Environmental Quality on Lake Tenkiller. This association would seem as an advantage as they already know part of the system, however, their involvement will be viewed as conflict of interest to many of the stakeholders in the watershed since they have worked previously (even recently) for government in Oklahoma.

4. The QAPP prepared for this modeling project is difficult to follow and evaluate as it does not follow the EPA required format for QAPP's (EPA QA/R-5). Elements are not labeled according to the EPA requirements. It appears that several required elements of QAPP's (according to EPA QA/R-5 and EPA QA G-5M) were omitted from the plan. We understand that there will be no new data collection (no field work) completed for the project so that the majority of Group B requirements are not applicable. However, each element is supposed to be listed in order, and if an element is "not applicable" or "not relevant" it should be so stated in the QAPP. This was not done for this project. In addition, there are several QAPP elements that are relevant and should be included in the QAPP, but appear to be omitted or included in an insufficient level of detail. These elements include: Element A7-Quality Objectives and Criteria, B7-Calibration, B9-Non-direct Measurements, B10 Data Management, D1-Data Review, Verification and Validation and D2-Verification and Validation Methods. These omissions need to be corrected and the QAPP sent out a second time for review by stakeholders.
5. It is stated in Section 3.2 of the QAPP that subcontractors will be used but the subcontractors are not specifically identified nor is their specific role in the modeling. This information should be included in the QAPP prior to review and approval. This omission needs to be corrected and the QAPP sent out a second time for review by stakeholders.
6. It is impossible to properly evaluate a modeling study QAPP prior to selection of the specific model that will be used in the study. Data quality objectives (DQO) cannot be properly evaluated nor calibration protocols assessed without certain information related to model set-up, model calibration, and model validation, specific to a particular model or model type (e.g. dissolved oxygen models no matter what the complexity share similar coefficients and necessary calibration parameters) that would allow the quality of the proposed model results to be assessed. These omissions need to be corrected and the QAPP sent out a second time for review by stakeholders.
7. Section 6 of this QAPP describes the DQO of the project in a general manner with a focus on the existing data that will be used. Though each topic is addressed, no specific information is provided. For example, the "Acceptance Criteria" for use of existing data is discussed but no actual criteria are provided. Information should be provided on what analytical parameters are important, what detection levels are acceptable, what data sources are acceptable, how old of data is acceptable, etc. Potential data sources are discussed, including some very old data sources (a 1977 EPA study and a 1989 USACE study) that are likely not of adequate data quality for use. No guideline is provided in the QAPP to determine what the modelers are going to be doing with data. These omissions needs to be corrected and the QAPP sent out a second time for review by stakeholders.
8. Section 7 of this QAPP is intended to describe the DQO associated with model setup and calibration. However, as discussed in Point 5 above, the model that will be used is uncertain so specifics of how calibrations will be completed are not included. Lacking information includes: what is the systematic orientation of the model (will the model be 2D or 3D, what streams/tributaries are modeled or how is

the lake segmented for modeling), what specific water quality parameters or flows will be used as calibration targets, what specific data sources will be used for the calibration and for what time frames, what coefficients will be used and how they will be derived, what time scale will the model be run, etc. The QAPP also indicates that "...interpolated or extrapolated values using existing field data" will be utilized in the model calibration. Use of such data could be potentially problematic and biased and specific criteria should be developed for determining what extrapolations or interpolations are reasonable. This criterion should be included in the QAPP. These omissions need to be corrected and the QAPP sent out a second time for review by stakeholders.

9. No specific nutrient criteria are stated in the QAPP for Lake Tenkiller as a target for the modeling. Nutrient criteria for lakes has not been established in Oklahoma, therefore quantitative targets for a TMDL are not yet appropriate. As specific information about what will be included in the modeling is not provided in this QAPP, it is difficult to evaluate if the modeling plan is appropriate. Therefore, we want to state that it is critical that the following issues be addressed in the TMDL modeling study.
  - a. The most current data available should be utilized in the modeling. This includes water quality data, land-use data, agricultural census data and manure handling information from the watersheds. It is imperative that current land-use practices and manure handling practices be considered.
  - b. The model chosen for use in the TMDL study should be able to simulate the movement and re-suspension of nutrients in soil/sediment from stream bank erosion and bottom scour as this is believed to be a large component of the phosphorus load in the river system.
  - c. Current wastewater treatment plant data must be utilized to capture the improvements that have been made in the region over the last few years.

Thank you.

Regards,



David Cameron  
City Administrator

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