

EXHIBIT D

Economic Impact Statement

**ECONOMIC IMPACT STATEMENT
OF PROPOSED RULES OR REGULATIONS
EO 05-04: Regulatory Flexibility**

Department Arkansas Department of Environmental Quality Division Water

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Date March 23, 2007

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Title or Subject: Arkansas Pollution Control and Ecology Commission Regulation Number 2, Regulation for Establishing Water Quality Standards for Surface Waters of the State of Arkansas

Benefits of the Proposed Rule or Regulation

1. Explain the need for the proposed change(s). Did any complaints motivate you to pursue regulatory action? If so, please explain the nature of such complaints.

Condition #1 of the 401(a)(1) Water Quality Certification issued to the Bayou Meto Basin, Arkansas Project states that “[t]he mineral standards for chlorides and sulfates in the Delta Ecoregion Streams as identified in Regulation No. 2 must be revised prior to use of the water from the Arkansas River in the agricultural water supply portion of the project.” Introduction of waters from the Arkansas River to the Bayou Meto Basin is not anticipated to occur until at least FY2012. Neither the Arkansas Natural Resources Commission, nor the Bayou Meto Water Management District have received any complaints against furtherance of this action. Changing these standards will not impair any of the designated uses of the Delta Ecoregion streams.

2. What are the top three benefits of the proposed rule or regulation?

Minimally raising the regulatory limits for chloride and sulfate levels in the streams of the Delta Ecoregion to accommodate the introduction of Arkansas River waters allows for the 1) continued maintenance of irrigated croplands through the use of Arkansas River waters; 2) preservation of the Alluvial and Sparta aquifer as resources for municipal and industrial water supply; and 3) rehabilitation of the degraded waterways within the Bayou Meto Basin.

Maintenance of Irrigated Crops

The major resource problem in the Bayou Meto and eastern Arkansas areas is the lack of a dependable water supply to continue irrigation of cropland. The Alluvial aquifer, which is the primary source of agricultural irrigation water for all eastern Arkansas, is seriously depleted. Groundwater withdraws over several decades in excess of recharge have resulted in cones of depression in the aquifer. Impacts will be of

national significance as this region produces approximately one half of the national output of rice and significantly contributes to national output of soybean, wheat and other grain crops. Currently, 290,061 acres are in irrigated crops in an average year. With-project 277,474 acres are expected to remain in irrigated crops in an average year. Without-project that figure drops to 59,526 acres by 2049. This is based on estimates that the Sparta aquifer will be exhausted by 2027 and the saturated thickness of the Alluvial aquifer will continue to decline until it reaches a yield potential of approximately 25,310 acre-feet. These continued declines in available groundwater will force farmers, farm supply dealers, and lending institutions into bankruptcy, along with others not directly related to agriculture, whose livelihood depends on monies provided by agriculture to the local economy. The expected annual benefits to the project area from maintaining these crop levels are predicted to be around \$34.4 million per year.

Preservation of Alluvial and Sparta Aquifers

Agricultural practices in the project area are not expected to change in the foreseeable future. Thus, the demand for irrigation water will remain. As the aquifer is further depleted the potential for salt water intrusion will increase. As the water levels continue to decline, the distance between wetlands and the water table will increase. This will result in the drying effect of the wetlands. Recharge from the aquifer to natural streams will decrease as the aquifer declines, thereby changing the ecology of the riverine system. Aquatic organisms that inhabit the streams, ditches and bayous are negatively impacted by the withdrawal of water for irrigation purposes.

Rehabilitation of Degraded Waterways in the Bayou Meto Basin

Without project implementation, the water levels in the streams and aquifers will continue to decline, rapidly increasing the distance from the wetlands to the water table. This will have a drying effect on wetlands of the Bayou Meto basin. Recharge from the aquifer to natural streams will decrease as the aquifer declines, thereby changing the ecology of the riverine system. Aquatic organisms that inhabit the streams, ditches and bayous are negatively impacted by the withdrawal of surface water for irrigation purposes. Benthic communities are currently limited due to low flow conditions and unsuitable habitats in these streams, ditches and bayous caused by sedimentation. With the project, species richness in the aquatic habitats is expected to double or triple in some reaches of the project. Installation of over 60 weirs will maintain minimum pool elevations and channel work will increase flow capacity and unconsolidated substrates that degrade fish habitat. It is expected that 6,000 to 15,400 acres of additional lacustrine habitat will be created.

3. What, in your estimation, would be the consequence of taking no action, thereby maintaining the status quo?

Maintaining the status quo would result in irreparable damage to the Alluvial and Sparta aquifers, change to the economic climate of eastern Arkansas because

farmers have to convert to less profitable dryland farming practices, the destruction of winter nesting areas for migratory waterfowl due to the lack of water management capability, and continued flood damage in areas already susceptible to long periods of inundation due to the lack of water management capability.

4. Describe market-based alternatives or voluntary standards that were considered in place of the proposed regulation and state the reason(s) for not selecting those alternatives.

Because the irrigation needs of the Bayou Meto basin demand of approximately 173 billion gallons of water per year, there was not another sustainable source of water capable of meeting the irrigation needs of the basin. Although other water source alternatives were addressed, they were quickly abandoned because they were not reliable or sustainable.

Impact of Proposed Rule or Regulation

5. Estimate the cost to state government of collecting information, completing paperwork, filing, recordkeeping, auditing and inspecting associated with this new rule or regulation.

The proposed new regulation imposes no additional costs on state government with regards to collecting information, completing paperwork, filing, recordkeeping, auditing, and inspecting.

6. What types of small businesses will be required to comply with the proposed rule or regulation? Please estimate the number of small businesses affected.

This project will provide irrigation water to some area farms that are considered small businesses. There are approximately 1200 farms operating in the project area with less than 100 employees each, which would define these farms as small businesses. Conversations with these landowners about what the water quality of Arkansas River water have on their operation resulted in only positive perceived impacts to their operation. As the water levels in the Sparta Aquifer have decreased, deep wells are being used a last resort to draw water to use for irrigation. These deep wells are expensive to build (some are in excess of 800 feet) and have high energy costs required to recover the water. This also assumes that these wells are able to draw out any water, as water levels in the Basin have declined by as much as 100 feet since 1905 and continue to decline rapidly. While there will be an increase in capital investment to best utilize their new water, having a sustainable water source in the long term more than offsets this initial investment.

7. Does the proposed regulation create barriers to entry? If so, please describe those barriers and why those barriers are necessary.

The availability of irrigation will not be a barrier to entry, but will allow for small businesses to establish themselves within the proposed project.

8. Explain the additional requirements with which small business owners will have to comply and estimate the costs associated with compliance.

There will be no cost for compliance based on the revised standards, but small businesses will want to increase their capital investments to best utilize the availability of water.

9. State whether the proposed regulation contains different requirements for different sized entities, and explain why this is, or is not, necessary.

No additional requirements for small business owners will be required by these revisions to this regulation.

10. Describe your understanding of the ability of small business owners to implement changes required by the proposed regulation.

Small business owners should be able to implement changes as easily as other size entities.

11. How does this rule or regulation compare to similar rules and regulations in other states or the Federal government?

These changes compare to regulations in other states concerning the National Pollution Discharge Elimination Program. The regulation will still be more stringent than federal standards but will be slightly less stringent than current state standards.

12. Provide a summary of the input your agency has received from small business or small business advocates about the proposed rule or regulation.

No comments have been received at this time.