



DEPARTMENT OF THE ARMY
CHIEF OF ENGINEERS
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23 MARCH 2015

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MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (CIVIL WORKS)
108 ARMY PENTAGON, WASHINGTON, DC 20310-0108

SUBJECT: Alabama-Coosa-Tallapoosa River Basin Water Control Manual update and Environmental Impact Statement – Final USACE Response to Independent External Peer Review

1. Independent External Peer Review (IEPR) was conducted for the subject project in accordance with Section 2034 of the Water Resources Development Act of 2007, EC 1165-2-214, and the Office of Management and Budget's Final Information Quality Bulletin for Peer Review (2004).
2. The IEPR was conducted by Noblis. The panel consisted of four members with technical expertise in river operations management and planning, economics, environmental science, and water resources engineering.
3. The enclosed approved report contains the final written responses of the U.S. Army Corps of Engineers to the issues raised and the recommendations contained in the IEPR. The report and the USACE responses have been coordinated with the vertical team and will be posted on the Internet, as required in EC 1165-2-214.
4. If you have any questions on this matter, please contact me or have a member of your staff contact Ms. Stacey Brown, Deputy Chief, South Atlantic Division Regional Integration Team, at 202-761-4106.

Encl

A handwritten signature in black ink, appearing to read "S. L. Stockton".

STEVEN L. STOCKTON, P.E.
Director of Civil Works

**Alabama-Coosa-Tallapoosa River Basin
Water Control Manual Update and
Draft Environmental Impact Statement
U.S. Army Corps of Engineers Response to
Independent External Peer Review
March 2015**

Independent External Peer Review (IEPR) was conducted for the subject project in accordance with Section 2034 of WRDA 2007, EC 1165-2-214 and the Office of Management and Budget's *Final Information Quality Bulletin for Peer Review (2004)*.

The goal of the U.S. Army Corps of Engineers (USACE) Civil Works program is to always provide the most scientifically sound, sustainable water resource solutions for the nation. The USACE review processes are essential to ensuring project safety and quality of the products USACE provides to the American people. Noblis Incorporated (Noblis), a non-profit science, technology and strategy organization with experience in establishing and administering peer review panels for USACE, was engaged to conduct the IEPR of the Alabama-Coosa-Tallapoosa (ACT) River Basin Water Control Manual (WCM) Update and Draft Environmental Impact Statement (DEIS).

The IEPR panel reviewed the WCM/DEIS, as well as supporting documentation. The Final IEPR Report was issued from Noblis on 2 July 2013. Overall, fifteen comments were identified and documented. Nine were identified as having high significance, four were identified as having medium significance, and two were identified as having low significance. The following discussions present the USACE Final Response to the fifteen comments.

1. Comment – *High Significance*: The Allatoona Water Control Manual (WCM) should include discussion of the impacts of the current peaking power operation at Allatoona Dam and the extreme daily fluctuation in flows below the Dam.

This comment included three recommendations, all of which were adopted, as discussed below. The comment expresses a concern that the discussion of the impacts of the current peaking power operation at Allatoona Dam is critical in strengthening the overall analysis.

USACE Response: Adopted

Action Taken: The IEPR Panel recommended (1) that peaking power operation at Allatoona be analyzed and sufficiently described. In response, additional language and graphics have been placed in Section 8-07 of the Allatoona Lake Water Control Manual (WCM) to address the hydrologic effects of the peaking operation during normal operations and drought operations. The IEPR panel recommended (2) that more details be added regarding a reduction in hydropower generation during drought periods using graphical presentations. In response, a qualitative discussion of the environmental impacts has been placed in Chapter 6, Environmental Consequences, of the Environmental Impact Statement (EIS). Hydrographs have been placed in both the WCM and Chapter 6 of the EIS. The IEPR panel recommended (3) that a footnote be added explaining whether the operation of Allatoona will be affected by the Drought Management Plan. Rather than add a footnote, additional language has been added to Section 4.1 of the EIS to

explain considerations for changes to hydropower generation at the Allatoona project, including drought periods, and the physical limitations of the existing infrastructure as they relate to supporting a more natural flow regime. Text has also been added to Section 4.2.2.1 of the EIS to include drought operations at Allatoona as part of the ACT Basin Drought Management Plan.

2. Comment – *High Significance*: The DEIS should better specify the rationale for the inclusion/exclusion of specific economic benefits for the alternatives analysis.

This comment included one recommendation, which was adopted as discussed below. The comment expresses a concern that additional significant economic, social, or environmental information should be considered to demonstrate techniques that yield complete and acceptable analyses of an adequate array of possible measures considered in the development of alternatives, identify meaningful differences between alternatives, and support the conclusions drawn from the planning models.

USACE Response: Adopted

Action Taken: The IEPR Panel recommended (1) that the Environmental Impact Statement (EIS) consider the value of ecosystem services and benefits fully in the alternatives formulation and analysis in the EIS, or provide a more substantive discussion of why this evaluation was not fully considered in the EIS. In response, text describing the qualitative analysis/methodology that was conducted during the formulation process to assess the impacts to project purposes has been added to Section 2.6 of the EIS.

3. Comment – *Medium Significance*: The objectives for the WCM update should specify the goal to improve conditions for fish and wildlife conservation downstream of each USACE dam.

This comment included one recommendation, which was adopted as discussed below. The comment expresses a concern that the information provided does not give adequate consideration to beneficial uses and habitat at, and downstream of, projects through enhancement and non-degradation of water quality, nor are implementation responsibilities and requirements, including environmental commitments, of the USACE sufficiently described.

USACE Response: Adopted

Action Taken: The IEPR Panel recommended (1) that the Water Control Manual (WCM) objectives be revised to specify the goal to improve conditions downstream of each USACE dam for fish and wildlife conservation or revise the discussion of objectives in the Environmental Impact Statement (EIS) to better explain why this is not feasible. In response, additional text has been added to Section 4, page 4-3 to further explain the rationale of why modification to Allatoona Dam operations was not considered. Text regarding the operation of Millers Ferry Lock and Dam, Robert F. Henry Lock and Dam, and Claiborne Lock and Dam was also added to Section 4 of the EIS.

4. Comment – *High Significance*: Monitoring of aquatic ecologic/biologic communities should be conducted in support of the WCM updates, or rationale for excluding biologic monitoring must be better explained in the EIS.

This comment included one recommendation, which was not adopted as discussed below. The comment expresses a concern that this omission represents a fundamental problem with the project that could affect the recommendation or justification of the project alternatives, assumptions made for use in developing the future conditions for each alternative may not be reasonable, and the proposed plan of operations does not provide for gathering of ongoing effects data to inform adequate response and flexibility to address uncertainty in future conditions.

USACE Response: Not Adopted

The IEPR panel recommended (1) that the Environmental Impact Statement (EIS) better address long-term biologic monitoring following operational changes to the Alabama-Coosa-Tallapoosa (ACT) system to measure effects of operational changes and provide a data-driven basis of response for adaptive management of the system as conditions warrant, or present a more detailed justification in the EIS why such monitoring would not be conducted. The EIS already contains discussion in Volume 3, Appendix B of the EIS as to why dedicated studies of biological resources in the basin are outside the scope of this effort. The purpose and need for the updated Water Control Manuals is to determine how the federal projects in the ACT Basin should adjust operations for their authorized purposes, in light of current conditions and applicable law and to implement those operations through updated water control plans and manuals. Furthermore, consultation with the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act has been completed, and USFWS has concurred that the proposed action would either have “no effect” on, or be “likely to affect but not likely to adversely affect” Federally listed threatened or endangered species. Hence, long-term biologic monitoring was not considered necessary.

5. Comment – *High Significance*: Alternatives including variable continuous flow or other more natural (unimpaired) flow regimes at USACE projects do not appear fully considered in the DEIS.

This comment included one recommendation, which was adopted as discussed below. The comment expresses a concern that the information provided does not give adequate consideration to beneficial uses and habitat at, and downstream of, projects through enhancement and non-degradation of water quality.

USACE Response: Adopted

Action Taken: The IEPR Panel recommended (1) that the USACE better explain how the range of alternatives addresses protection and restoration of endangered species and critical habitat, or why such consideration is not possible in the current alternative analysis, while also making recommendations of what would need to happen for those issues/alternatives to be considered. In response, additional text has been added to Section 4.1 of the Environmental Impact Statement (EIS), utilizing responses to the 2008 Planning Aid Letter to the U.S. Fish and Wildlife Service

regarding how the Allatoona flow regime would affect endangered species and critical habitat. Unimpaired flows are defined as historically observed flows adjusted for human influence by accounting for the effect of reservoirs, and municipal, industrial, thermal power, and agricultural withdrawals and returns. Graphics for the comparisons of the alternatives to the unimpaired flows have been added in Section 6, Environmental Consequences, of the EIS.

6. Comment – *High Significance*: There is limited direct discussion on impacts of preferred alternative(s) in known areas of interest.

This comment included one recommendation, which was not adopted as discussed below. The comment expresses a concern that the information provided does not give adequate consideration to beneficial uses and habitat at, and downstream of, projects through enhancement and non-degradation of water quality.

USACE Response: Not Adopted

The IEPR Panel recommended (1) that the USACE provide some details on how Plan G would affect/address/improve the issues raised at the start of the Environmental Impact Statement (EIS), and provide more robust discussion of other potential solutions to addressing water quality issues, including structure methods. In response, although no specific changes were made to the EIS, the USACE worked closely with US Fish and Wildlife Service (USFWS) to address concerns in the USFWS Coordination Act Report process related to Plan G, the preferred alternative, in Appendix B of the EIS. The USFWS recognized that structural modifications were not a part of this water control manual update process and as a result of that coordination the EIS appropriately addressed all USFWS concerns. Furthermore, the USACE analyzed a large number of additional impacts raised during public review. These issues were addressed in the responses to public comments in Appendix B of the EIS.

7. Comment – *High Significance*: There is a lack of direct input from APC.

This comment included one recommendation, which was adopted as discussed below. This comment expresses a concern that the relationship of the Alabama Power Company (APC) with the USACE in the Alabama-Coosa-Tallapoosa River basin influences the operations of the rivers to an extent, and that excluding review and input by APC or other direct stakeholders limits the understanding of this project and its operational complexity.

USACE Response: Adopted

The IEPR Panel recommended (1) that the USACE incorporate written pertinent comments from the APC on the Environmental Impact Statement (EIS), especially on hydropower generation and flood risk management. In response, coordination has taken place with the APC in the preparation of the Basin Wide Drought Plan (Appendix A, Master Manual). Additional coordination took place in the revision to the H. Neely Henry flood operation that is captured in the update to that manual (Appendix A, H. Neely Henry).

Through the public review process of the EIS and Water Control Manual, comments were received from the APC. Comments provided by APC as well as other stakeholders were addressed in the EIS (Appendix B).

8. Comment – *High Significance*: There is an absence of potentially helpful studies that would provide greater insight into the implications of the ACT DEIS.

This comment included one recommendation, which was not adopted as discussed below. The comment indicates that including additional studies would provide additional insights on the impacts of reservoir operations in a multi-purpose environment. When not discussed, readers (especially those who are focused on single-purpose reservoir operations) may question the validity of the results and/or not fully understand the compromise needed when making reservoir operational decisions.

USACE Response: Not Adopted

The IEPR Panel recommended (1) that the USACE make references to the studies mentioned (i.e. Global Warming, Monte Carlo Simulations, Shared Vision Planning, cost impacts, and qualitative assessments) that were left out of this WCM update and associated Environmental Impact Statement (EIS) and explain why, if applicable, they were beyond the scope of this project. In response, these references were not added because Global Warming was already addressed in several locations of the EIS: Section 2.3.1.2 Greenhouse Gases and Global Warming (pg 2-168) and Section 2.3.1.3 Historical Precipitation and Droughts (pg 2-169). The 70-year period of record captured in the unimpaired flow data set is representative of the hydrology in the ACT Basin. However, a sensitivity analysis of more extreme conditions was developed to consider lower basin inflows and increased system demands (Section 6.9, Page 6-217 of the EIS) and provides insight into how the system will perform under a potential Global Warming scenario. Based on this additional sensitivity analysis, incorporation of the additional studies recommended by the IEPR panel would not have changed the alternatives or the preferred plan.

9. Comment – *High Significance*: There is no mention of limitations of USACE actions.

This comment included one recommendation, which was not adopted as discussed below. The comment indicates that reference to the limitations of USACE actions provides clarity and context to the project scope, and justification for the selection of the preferred alternative. Absent those limitations, other alternatives would have been considered and possibly selected.

USACE Response: Not Adopted

The IEPR Panel recommended (1) that the USACE clearly emphasize the limitations of its actions in order to provide greater insight into the project scope. However, limitations on USACE actions were already covered in several locations in the Environmental Impact Statement (EIS). In particular, Sections 1.2 and 1.3 of the Purpose and Need states, “any proposed changes to the Alabama-Coosa-Tallahassee Basin water control operations that would significantly affect other project purposes or require substantial structural modifications would require feasibility-level studies and congressional authorization.” Other limitations that were discussed appear in Section 4.1, pages 4-5 and 4-6, specifically related to management measures that consider Navigation, and

the raising of the conservation and winter pool levels at Allatoona Lake. Limitations on structural modifications are described as being outside of the scope of the Water Control Manual update. Other authorities that exist that could address degraded environmental conditions from past project-related activities are discussed in Section 4.1, Page 4-6 of the EIS. Any additional discussion of these limitations in the EIS would not have changed the alternatives analyzed or the preferred plan.

10. Comment - *Medium Significance*: Given the importance and uncertainty of current climate change discussions in scientific and public communities, techniques other than historic data analysis could be used to benefit this project.

The comment included one recommendation, which was adopted as discussed below. The comment indicates that insight into the sensitivity analysis of key parameters done in the background, while unlikely to alter the outcome of the preferred alternatives selection, provides clarity and reassurance to audiences that a reasonable range of possible errors were considered.

USACE Response: Adopted

Action Taken: The IEPR Panel recommended (1) that the USACE perform additional analysis or justify reliance on historic data and the reason for not reporting results of sensitivity analysis. In response, a sensitivity analysis of more extreme conditions was developed with the results added to Section 6.9, Page 6-217 of the Environmental Impact Statement (EIS). The sensitivity analysis utilized a 15% decrease in hydrology (basin inflows) due to climate change and included demand and hydrology. The analysis also considered elevation and flows at key locations throughout the basin over the 70 year period of record and meets the intent of the recommendation.

11. Comment - *Medium Significance*: System Operators rely on “precipitation on the ground,” or measured flows, and calculated inflows when making reservoir release decisions in the ACT river basin. Forecasting is used for short-term preparations, planning, and for public warnings. Greater reliance on forecasts in short-term reservoir operating decisions may become more important in the future as the technology and science of meteorological and hydrologic forecasting advances.

The comment included one recommendation, which was adopted as discussed below. The comment indicates that while the discussion on forecasting will not alter the actions proposed by the USACE today, opening the dialogue now could pay large dividends in the future for operators of Alabama-Coosa-Tallapoosa (APC) by reducing overall risk.

USACE Response: Adopted

Action Taken: The IEPR Panel recommended (1) that the USACE discuss the potential for improved forecasts and how they could be used for actual reservoir operation decisions in the future. In response, additional text on the availability of the USACE Corps Water Management System (CWMS) initiative has been placed in Chapter 6 of the Master Manual and all of the individual Project Water Control Manuals. The CWMS model was developed for the ACT Basin for near real-time operations of the system which considers hydro-meteorological forecasts.

12. Comment - *Medium Significance*: USACE response to public scoping comments identified in the DEIS frequently do not appear to fully address the expressed concern.

The comment included one recommendation, which was not adopted as discussed below. The comment expresses a concern regarding the importance of ensuring project success by assuring that the public and stakeholders are adequately engaged in the scoping of issues, concerns, and potential remedies, and that expressed concerns are adequately addressed.

USACE Response: Not Adopted

The IEPR Panel recommended (1) that the USACE provide more robust responses to the public comments that were generated in the scoping process. The purpose of the scoping process (Section 1.4.2 of the EIS), in accordance with the requirements of the National Environmental Policy Act, is to solicit input from other agencies and the general public on the scope of issues to be addressed and the significance of those issues, not to provide detailed responses to the general public. However, while robust responses to comments were not generated, the public scoping comments were thoroughly considered and factored into the manual update and Environmental Impact Statement (EIS), where appropriate.

13. Comment - *Medium Significance*: There are limited discussions on the ranking of alternatives and the role of operation impacts on intangibles (e.g., impacts on cultural resources, quality of life, historical heritage, etc.) in that ranking.

The comment included one recommendation, which was not adopted as discussed below. The comment indicates that an alternative ranking based on intangibles would demonstrate that the full range of beneficial alternative analysis was performed in the Environmental Impact Statement.

USACE Response: Not Adopted

The IEPR Panel recommended (1) that the USACE address the procedure and criteria used in alternative ranking and explain how intangible impacts were (or why they were not, if applicable) applied. Discussion on alternative ranking was not included in the Environmental Impact Statement (EIS) because a ranking system was not utilized in the analysis.

14. Comment - *Low Significance*: It is unclear what, if any, procedures the USACE uses to perform quality assurance/quality control on the data that is received directly from sensors in the field.

The comment included one recommendation, which was adopted as discussed below. The comment indicates that providing insight into the data Quality Assurance/Quality Control (QA/QC) procedures used by the USACE will help alleviate audience uncertainty.

USACE Response: Adopted

Action Taken: The IEPR Panel recommended (1) that adding a description in the Water Control Manuals for in-house, USACE real-time data Quality Assurance/Quality Control (QA/QC) procedures. In response, additional language was placed in Chapter 5, Section 5-01 b of the Master Manual and all of the individual Project Water Control Manuals to address data quality issues that may arise.

15. Comment - *Low Significance*: The period of time that dredging is effective in reducing the flow required to maintain various depths of channel for navigation is suspect, or, at best, confusing.

The comment included one recommendation, which has been adopted as discussed below. The comment indicates that providing clarity into this issue of navigation flow is helpful in ensuring the material reads cleanly and accurately.

USACE Response: Adopted

Action Taken: The IEPR Panel recommended (1) that the USACE include an explanation to clearly describe the factors causing an apparent phenomenon/inconsistency in regards to dredging and channel depths. In response, the USACE reanalyzed the dredging template and made appropriate modifications. Additionally, language has been added to clarify the flow requirements and various depths in Chapter 7 of the Master Manual and modifications were made to Figure 7-3, Page 7-5 in the Master Manual and Chapter 6 of the Environmental Impact Statement.