DEPARTMENT OF THE ARMY
CHIEF OF ENGINEERS
2600 ARMY PENTAGON
WASHINGTON, D.C. 20310-2600

DAEN

DEC 23 2014

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

SUBJECT: Central Everglades Planning Project, Florida – 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 Battelle Memorial Institute. The IEPR panel consisted of four members with technical expertise in Civil Works planning, economics, environmental and ecological evaluation, hydraulic engineering, and geotechnical engineering.

3. The final written responses to the IEPR are hereby approved. The enclosed document contains the final written responses of the Chief of Engineers to the issues raised and the recommendations contained in the IEPR. The IEPR 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

THOMAS P. BOSTICK
Lieutenant General, USA
Chief of Engineers

Comprehensive Everglades Restoration Plan
Central Everglades Planning Project
Project Implementation Report and Environmental Impact Statement

FINAL
U.S. Army Corps of Engineers Responses to
Independent External Peer Review
October 2014

Independent External Peer Review (IEPR) was conducted for the subject project in accordance with Section 2034 of WRDA 2007, Engineering Circular (EC) 1165-2-214, Civil Works Review, 15 December 2012, and the Office of Management and Budget's *Final Information Quality Bulleting for Peer* Review (2004).

The Central Everglades Planning Project (CEPP) is encompassed in the Comprehensive Everglades Restoration Plan (CERP), which was approved by Congress as a framework for the restoration of the natural system under Section 601 of the Water Resources Development Act (WRDA) of 2000. The CERP, as documented in the 1999 Central and Southern Florida (C&SF) Project Comprehensive Review Study Final Integrated Feasibility Report and Programmatic Environmental Impact Statement, consists of 68 different components that work together to restore, preserve, and protect the south Florida ecosystem while providing for other water-related needs of the region. The purpose of the CEPP is to improve the quantity, quality, timing and distribution of water flows to the Northern Estuaries (Caloosahatchee and St. Lucie Estuaries), central Everglades (Water Conservation Area 3 [WCA 3] and Everglades National Park [ENP]), and Florida Bay, while increasing water supply for municipal and agricultural users. The recommended plan beneficially affects more than 1.5 million acres, reducing the number and severity of undesirable, high volume discharges from Lake Okeechobee to the St. Lucie and Caloosahatchee Estuaries, and provides an average of approximately 210,000 acre-feet per year of additional freshwater flowing into the central portion of the Everglades. The recommended plan increases the amount of water available for municipal and industrial water uses in Lower East Coast Service Areas 2 and 3 while maintaining existing water supply performance for other users.

The Battelle Memorial Institute (Battelle), through a contract with the U.S. Army Engineer Institute for Water Resources, conducted the IEPR. The IEPR panel consisted of four individuals selected by Battelle with technical expertise in the following categories: civil works planning/economics, environmental and ecological evaluation, hydraulic engineering, and geotechnical engineering.

The IEPR panel reviewed the CEPP Draft Project Implementation Report (PIR) and Environmental Impact Statement (EIS) dated August 2013. The Final Report from the IEPR panel was issued 10 October 2013. Overall, eight final comments were identified and documented. Of the eight comments, 2 were identified as having high significance, 4 were identified as having medium significance, and 2 were identified as having low significance.

The following discussions present the U.S. Army Corps of Engineers (USACE) Final Response to the eight IEPR comments on the CEPP Draft PIR/EIS. Further details on each comment, such as the Basis for Comment, Significance, and Recommendations for Resolution can be found in the IEPR Final Report referenced above.

1. IEPR Comment – *High Significance*: Impacts to navigation on the Okeechobee Intercoastal Waterway (OIWW) as a result of the Tentatively Selected Plan (TSP) have not been addressed.

This comment includes four recommendations for resolution, three of which have been adopted, and one of which has not been adopted, as discussed below. The comment expresses the concern that impacts to navigation could affect the justification or selection of the TSP, because other alternatives may have less negative or more positive impacts to the OIWW.

USACE Response: Adopted

Action Taken: The IEPR panel recommended (1) adding to the CEPP report a discussion on the impacts of the various alternative plans to commercial and recreational navigation on the OIWW. In response, a description of the OIWW has been added to Section 2 (Existing and Future Without Conditions) of the CEPP Final PIR/EIS. Text in Sections 5.1.15 and 5.2.15 (Socioeconomics) has been expanded to further document the impacts of various alternative plans to commercial and recreational navigation on the OIWW. The IEPR panel recommended (3) a quantification of any potential losses or gains in NED (National Economic Development) or Regional Economic Development (RED) benefits or costs associated with implementation of the TSP. In response, text in Section 4.5.1 has been expanded to document there would be no impacts to Lake Okeechobee navigation or any significant changes in NED benefits or costs related to navigation associated with implementation of the recommended plan. The IEPR panel recommended (4) additional documentation be added to the CEPP report to demonstrate how the TSP would not negatively impact congressionally authorized project purposes of the OIWW, or how the TSP could positively impact these purposes. In response, Sections 5.1.15.1 and 5.2.15.1 were amended to show the number of days with low water conditions, demonstrating no impact or a very small benefit to navigation with the TSP.

USACE Response: Not Adopted

The IEPR Panel recommended (2) documentation of the quantification of seasonal differences in channel depths between the with and without project conditions within the CEPP Final PIR/EIS. However, there will be no impacts to commercial and recreational navigation with this project, so seasonal analyses would not be needed. The authorized C&SF project depths for Lake Okeechobee navigation are based on 12.56 feet National Geodetic Vertical Datum (NGVD29). The number of days below this criterion was 4934 for the existing condition baseline (ECB)/2012ECB, 5323 for the future without project condition (FWO), 5327 for the initial operating regime baseline (IORBL1), and 4463 for Alternative 4R2. Comparison between the FWO/IORBL1 and Alternative 4R2 indicate reduced potential navigation impacts with Alternative 4R2.

2. IEPR Comment – High Significance: Unresolved issues between the USACE and Tribes related to possible impacts to cultural resources (including human remains/burial sites) within the project area could affect project implementation.

This comment includes two recommendations for resolution, one of which has been adopted, and one of which has not been adopted, as discussed below. The comment expresses concern that unresolved issues could escalate if it is determined that cultural resources will be adversely impacted by the CEPP or if the Tribes decide to take action to stop one or more the proposed changes in the CEPP plan.

USACE Response: Adopted

Action Taken: The IEPR panel recommended (2) to clarify in the CEPP report that the Tribes indicate satisfaction with, and agree to, the plan of action to address cultural issues. In response, additional clarification and documentation indicating the Tribes agreement with the plan of action has been added to the consultation table in Appendix C.5 of the CEPP Final PIR/EIS. Additional language has also been added in Appendix C, Section C.5.6, concerning the USACE commitment to and current development of the "Policy Statement and Guidelines Regarding American Indian Burial Resources for Civil Works and Regulatory Projects" that will replace the current 2008 CERP HR Policy that governs the treatment of culturally sensitive sites throughout the greater CERP area.

USACE Response: Not Adopted.

The IEPR panel recommended (1) to complete coordination with the Seminole and Miccosukee Tribes and prepare a final agreement to include in the CEPP report that resolves all cultural issues. Coordination with the Seminole Tribe of Florida and Miccosukee Tribe of Indians of Florida has not been completed. As stated in the CEPP Final PIR/EIS, Appendix C.2.1.17 and C.2.2.17, through consultation with the State Historic Preservation Officer (SHPO), Seminole Tribe of Florida Tribal Historic Preservation Officer, and Miccosukee Tribe of Indians of Florida it was mutually agreed that Section 106 would not be completed during the feasibility phase as greater detail on the selected plan, which will be obtained during the project design phase, is still needed to fully determine project impacts and the lands that will be affected upon implementation of CEPP components. USACE has committed to and is currently developing the "Policy Statement and Guidelines Regarding American Indian Burial Resources for Civil Works and Regulatory Projects" that will replace the current 2008 CERP HR Policy that governs the treatment of culturally sensitive sites throughout the greater CERP area (Appendix C, Section C.5.6). This 2008 CERP HR Policy document remains valid and active until otherwise modified or rescinded by the signatory parties. The 2008 CERP HR Policy was developed in response to a statement prepared by the Miccosukee Tribe of Indians of Florida titled "Miccosukee Position on ACCELR8 Everglades Restoration Projects". At the time of development, the tribe was concerned that the rapid progression of CERP projects would have an adverse effect on cultural resource sites, particularly those containing human remains.

For the remainder of the issues concerning historic properties, these issues will be addressed during the PED phase in the form of any necessary Programmatic Agreement or Memorandum of Agreement as required per ER 1105-2-100, Appendix C-4 and 36 CFR 800.

3. IEPR Comment – Medium Significance: The Seminole Tribe's concern with what they consider an inadequate water supply for the environment (Western Basins) has not been addressed.

This comment includes four recommendations for resolution, three of which have been adopted, and one of which has not been adopted, as discussed below. The comment expresses the concern that the inadequate water supply to the western basins, a lack of monitoring data and models, and a lack of information concerning the status of the Task Force are not clearly described in the CEPP DPIR/EIS

USACE Response: Adopted

Action Taken: The IEPR panel recommended (1) additional information be added to the CEPP report to define the western basins and state whether they are within or outside of the CEPP project area. In response, a description of the Seminole Tribe of Florida's environmental and water supply concerns and their relevance to the scope of CEPP has been added to Section 5.3.2 of the CEPP Final PIR/EIS. Further clarification on the location of the Western Basins and whether they are within or outside of the CEPP project area has also been included in Section 5.3.2 to address the panel's recommendation. The IEPR panel recommended (2) additional information be added to the CEPP report to clarify whether the issues raised in the Tribe's Minority View are relevant to CEPP. In response, an additional citation was added in Section 5.3.2 where reference is made to the South Florida Ecosystem Restoration Task Force's 2010-2012 Strategy and Biennial Report and the efforts underway by a sub-set of Task Force member agencies. This information has been included to clarify whether the issues raised in the Tribe's Minority View are relevant to CEPP to address. In addition, an excerpt from the Seminole Tribe's Minority View from the Task Force report indicating that the Seminole Tribe seeks to amend the Task Force report to note that the western basins have never been appropriately modeled to allow effective planning and to request that the western basins be monitored and modeled has been incorporated into Section 5.3.2 of the CEPP Final PIR/EIS. The IEPR panel recommended (3) that additional information be added to the CEPP report to summarize the actions of the Task Force created to address the Tribe's concerns. In response, a status summary of activities on-going through the Task Force has been incorporated into Section 5.3.2 of the CEPP Final PIR/EIS to addresses the IEPR's panel recommendation.

USACE Response: Not Adopted

The IEPR panel recommended (4) inclusion of the Tribe's Minority View as an appendix or annex to the CEPP report. In the interest of limiting the size of the report, in lieu of including the Tribe's Minority Viewpoint as an Appendix or Annex to the CEPP, a citation has been added to Section 5.3.2 which links to the South Florida Ecosystem Restoration Task Force's Strategy and Biennial Report where the Tribe's Minority Viewpoint is documented.

4. IEPR Comment – Medium Significance: The process for screening management measures does not detail benefits to the Everglades system versus estimated costs.

This comment includes three recommendations for resolution, one of which has been adopted, and two which were not adopted, as discussed below. The comment expresses concern that

understanding of screening was affected by the lack of data on costs versus benefits of the measures that were screened out.

USACE Response: Adopted

Action Taken: The IEPR panel recommended (1) that additional documentation be added to the CEPP report to include basic, rough order-of-magnitude estimates of the costs and outputs of the measures that were not carried forward. In response, additional documentation has been provided in the CEPP Final PIR/EIS to provide further descriptions of the rationale used for screening of management measures.

USACE Response: Not Adopted

The IEPR panel recommended (2) that development of thumbnail level-of-detail analyses of costs, outputs, and effectiveness of the management measures that were screened out and (3) that additional documentation be included in the CEPP report to describe why other measures were determined to be less costly or more productive. This information was not added to the main report as that level of detail would not have affected the preliminary level screening. However, additional information has been provided in Appendix E for 'preliminary' screened management measures that were eliminated with cost being a driving factor (i.e. Aquifer Storage Recovery and Hybrid Wetland Treatment Technology). This information entailed documenting the efficiency of these measures as relating to other storage and treatment techniques. Clarifying information has also been added to the description of all eliminated management measures to document reasons why management measures were not feasible and therefore non-implementable. Management measures and scales of feasible measures that were retained past the 'preliminary' screening have been thoroughly documented for both costs and benefits.

5. IEPR Comment – Medium Significance: Due to uncertainty related to the hydrologic and hydraulic (H&H) model parameters, model performance and predictive uncertainty could not be assessed.

This comment includes three recommendations for resolution, all three were not adopted, as discussed below. This comment expresses concern that full documentation of model parameter uncertainty is necessary because the uncertainty influences the predictive simulation results and the proposed design.

USACE Response: Not Adopted

The IEPR panel recommended (1) additional information be added to the CEPP report to discuss predictive model uncertainty, and to include at a minimum, a range of possible outcomes defined based on a range of potential input parameter uncertainty and (2) documentation be added of predictive model performance, including parameter sensitivity and uncertainty analysis. This additional level of detail was not considered necessary since model performance and predictive uncertainty can already be assessed based on the analyses, model descriptions, and assumptions that were already documented within the CEPP Final PIR/EIS and accompanying Appendices and Annexes. However, in response to this comment, some additional text was added to Section 6.3.4 of the CEPP Final PIR/EIS to further discuss uncertainty related to hydrologic and hydraulic model parameters and ecosystem response. USACE recognizes that there is uncertainty

in the predictions derived from these models that stems from input variability and measurement errors, parameter uncertainty, model structure uncertainty and algorithmic (numerical) uncertainty. These uncertainties are also translated into uncertainty as to whether the specific performance indicators and measures used to characterize the overall system performance actually capture the overall ecosystem response. The likelihood of capturing all the processes occurring in a system as complex as the Everglades within simulation models is low. Even with a comprehensive model uncertainty analysis for CEPP, there will always be some uncertainty present in predicting ecosystem response and the environmental benefits associated with any CERP project because of the size and complexity of the Everglades as well as the difficulty in fully understanding its physical and biological processes. As such, the report includes a comprehensive Adaptive Management and Monitoring Plan, the purpose of which is to focus resources on refinement of CEPP to fine-tune performance due to inevitable uncertainties, based on existing knowledge and future knowledge that will be gained through monitoring and assessment. The IEPR panel recommended (3) that additional documentation of predictive model results for low and high friction factors be included within the CEPP report. This documentation was not added because while the cited literature range of Manning's value for an excavated channel with some extent of vegetation may vary from 0.02 to 0.04, the value of 0.035 taken from the C&SF Project General Studies and Report is appropriate for the level of detail needed at this phase of the project. This value will be further refined in PED once site specific information has been identified and a more appropriate value can be calibrated. However, in response to this comment additional information regarding the basis for the Manning roughness parameters assumed for the hydraulic designs has been added to sections A.5.3.2.1.1.1, A.5.3.2.1.4.1, A.6.3.2.1.1.1, A.6.3.2.1.4.2, and A.7.3.2.1.3.2 of Appendix A.

6. IEPR Comment – Medium Significance: Impacts that severe rainfall events above the 100-year return frequency design storm will have on components of the selected project alternative have not been addressed.

This comment includes five recommendations for resolution, all five were not adopted, as discussed below. The comment expresses concern that the analysis of the performance of project components under conditions greater than the 100-year return frequency rainfall will provide a more comprehensive understanding of the hydrologic and hydraulic (H&H) modeling performed for this project.

USACE Response: Not Adopted

The IEPR panel recommended the following items be analyzed: (1) equivalent rainfall distributions for various occurrence probability percentages of the watershed, (2) estimated maximum flood level elevations of Lake Okeechobee during various significant rainfall events above the 100-year rainfall event, (3) estimated maximum flood level elevations at critical components of the selected plan, (4) estimated maximum flood level protection required for various pump station, gated structures, and other critical component locations; and (5) estimated variations of percentages of modeled outflows for various significant rainfall events from those of the original H&H analyses of the 100-year return frequency design rainfall event. Although impacts of severe rainfall events above the 100-year return frequency design storm on components of the selected project alternative have not been addressed in the report. The recommended plan was chosen based upon detailed estimates of hydrology, including historical

rainfall, across the 41-year period of record (January 1965 – December 2005) generated by the hydrologic models RSM-BN for the Northern Estuaries and RSM-GL for the Greater Everglades and Florida Bay. The study has conducted a sufficient level of analysis to ensure that the existing levels of service for flood protection have not been compromised in the project areas. CEPP implementation will therefore maintain the integrity and functionality of the pre-existing C&SF flood damage reduction system, with some incidental improvements to the levels of service (particularly WCA 3A). The proposed recommended plan components would provide additional water management flexibility throughout the C&SF Project system. Sufficient information is included in the CEPP Final PIR/EIS for planning purposes and further detailed efforts will occur during the subsequent NEPA analysis and during PED. .

7. IEPR Comment – Low Significance: A monitoring network/plan to measure the CEPP performance has not been included in the adaptive management strategy.

This comment includes three recommendations for resolution, all of which have been adopted, as discussed below. The comment noted that a clear summary explaining how monitoring data will be used in the adaptive management process would improve the technical credibility of the document.

USACE Response: Adopted

Action Taken: The IEPR panel recommended (1) a summary section to be added to the CEPP report to explain how monitoring data will be used to determine if the original model was a good prediction of what really occurred. In response, USACE has provided additional summary documentation in Section 6.1.4 of the CEPP Final PIR/EIS, with reference to already existing detailed information in Annex D, to describe how monitoring data will be used in the adaptive management process. The IEPR panel recommended (2) clarification within the CEPP report of what data will be used during adaptive management, and the demonstration of how the data used will be of sufficient duration to result in modeling outcomes that have a high degree of reliability. In response, additional information has been included within Section 6.1.4 of the CEPP Final PIR/EIS to further explain how monitoring data will be used to determine if a completed phase of the project is functioning according to the model predictions used to determine the recommended plan. The IEPR panel recommended (3) additional information be included in the CEPP report to further explain how monitoring data will be analyzed to decide if adaptive management is necessary. In response, this information was added to Section 6.1.4 of the CEPP Final PIR/EIS.

8. IEPR Comment – Low Significance: A clear discussion of the rationale for selecting the Unit Daily Value (UDV) method to analyze recreation value rather than a site-specific model is not presented.

This comment includes three recommendations for resolution, one was adopted and two were not adopted, as discussed below. The comment expresses concern that because UDV represents a relatively unsophisticated means of measuring recreation value, the reasons for using UDV should be presented to support its use in developing alternatives in the DPIR/EIS.

USACE Response: Adopted

Action Taken: The IEPR panel recommended (2) further explanation of the selection of the UDV method over the regional, recent, and/or applicable site-specific or regional models be added to the CEPP report. In response, additional documentation was added to the Recreation Plan (Appendix F) of the CEPP Final PIR/EIS to support the use of the UDV method in the justification of recreation features. The CERP Program, including the Master Recreation Plan, has as a matter of accepted practice only utilized the UDV method for separable recreation justification.

USACE Response: Not Adopted

The IEPR panel recommended (1) additional information be added to the CEPP report to identify any recent and applicable Travel Cost Method (TCM) of Contingent Value Survey (CVS) analyses and discuss their findings, and (3) a discussion of the differences between any identified TCM or CVS analyses and the UDV method employed in the recreation analysis be further explained within the CEPP report. In response, a data investigation was conducted to identify any recent and applicable TCM or CVS analyses. However, recent TCM or CVS analyses were not found to be applicable to CEPP, thus additional information on TCM and CVS analyses was not added to the report.