

# Final Independent External Peer Review Report Decision and Implementation Documents for Environmental Mitigation for West Bank and Vicinity, New Orleans, Louisiana, Hurricane and Storm Damage Risk Reduction System

Prepared by  
Battelle Memorial Institute

Prepared for  
Department of the Army  
U.S. Army Corps of Engineers  
Coastal Storm Risk Management National Planning Center of Expertise  
Baltimore District

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July 24, 2014

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## Executive Summary

### PROJECT BACKGROUND AND PURPOSE

The purpose of this project is to provide compensatory mitigation for environmental impacts associated with West Bank and Vicinity (WBV) New Orleans, Louisiana Hurricane and Storm Damage Risk Reduction System (HSDRRS) construction work. Activities included in the development of the Decision and Implementation Documents for Environmental Mitigation for WBV HSDRRS include plan formulation; environmental clearance; real estate acquisition; development of plans and specifications; construction; monitoring; operations, maintenance, repair, replacement, and rehabilitation (OMRR&R); and adaptive management. Construction of the WBV HSDRRS has caused unavoidable impacts on five habitat types—marsh, bottomland hardwood wet, bottomland hardwood dry, swamp, and water bottoms.

The U.S. Army Corps of Engineers (USACE) will mitigate to the extent possible for impacts on marsh, bottomland hardwood wet, bottomland hardwood dry, and swamp. Mississippi Valley Division, New Orleans District is not planning to mitigate for open water impacts incurred from the WBV HSDRRS. Although open water areas may be productive for estuarine fisheries, there are continuing annual gains in various open water habitats due to the relatively high rates of wetland loss in Louisiana. Interspersed open water within and adjacent to marsh were assessed along with marsh impacts using the Wetland Value Assessment community model. Mitigation was included for lost functions of those aquatic habitats.

Implementation of WBV HSDRRS will be accomplished through development of multiple Project Decision Documents (PDDs), to include an overarching PDD that will demonstrate the overall comprehensive plan for implementation of the authorized features, including but not limited to levees, floodwalls, armoring, and associated structures. The intended function of the PDD is to provide definition and analysis of the project, evidence of compliance with environmental laws and regulations through alternative National Environmental Policy Act (NEPA) requirements, an evaluation of cost effectiveness, and a description of Federal and non-Federal responsibilities.

The PDD provides definitions and analysis of the WBV HSDRRS project, from both the engineering and real estate perspectives, as well as evidence of environmental compliance, cost effectiveness, and a description of Federal and non-Federal responsibilities. The PDD provides documentation that tells how the Government arrived at the final plan, describes the project, and documents what USACE plans to construct within USACE authority and policy.

## Independent External Peer Review Process

Independent, objective peer review is regarded as a critical element in ensuring the reliability of scientific analysis. USACE is conducting an Independent External Peer Review (IEPR) of the Decision and Implementation Documents for Environmental Mitigation for West Bank and Vicinity (WBV), New Orleans, Louisiana Hurricane and Storm Damage Risk Reduction System (hereinafter: WBV Mitigation Documents IEPR). As a 501(c)(3) non-profit science and technology organization, Battelle is independent, is free from conflicts of interest (COIs), and meets the requirements for an Outside Eligible Organization (OEO) per guidance described in USACE (2012). Battelle has experience in establishing and administering peer review panels for USACE and was engaged to coordinate the IEPR of the WBV Mitigation Documents. The IEPR was external to the agency and conducted following USACE and Office of Management and Budget (OMB) guidance described in USACE (2012) and OMB (2004). This final report presents the Final Panel Comments of the IEPR Panel (the Panel). Details regarding the IEPR (including the process for selecting panel members, the panel members' biographical information and expertise, and the charge submitted to the Panel to guide its review) are presented in appendices.

Based on the technical content of the WBV Mitigation Documents and the overall scope of the project, Battelle identified candidates for the Panel in the following key technical areas: Civil Works planning and biology/ecology. Civil Works planning and biology/ecology are both technical areas of expertise previously identified for the Louisiana Water Resources Council (LWRC, as defined in the Water Resources Development Act [WRDA] 2007, Section 7009) Primary Panel. USACE was given the list of candidate panel members, but Battelle made the final selection of two experts for the Panel: Dr. Ken Casavant and Ms. Kay Crouch, who are both members of the LWRC Primary Panel.

The Panel received an electronic version of the 12-page WBV Mitigation Documents PDD, along with a charge that solicited comments on specific sections of the document to be reviewed. USACE prepared the charge questions following guidance provided in USACE (2012) and OMB (2004), which were included in the draft and final Work Plans.

The USACE Project Delivery Team briefed the Panel and Battelle during a kick-off meeting held via teleconference prior to the start of the review to provide the Panel an opportunity to ask questions of USACE and clarify uncertainties. Other than Battelle-facilitated teleconferences, there was no direct communication between the Panel and USACE during the peer review process.

IEPR panel members reviewed the WBV Mitigation Documents PDD individually. The Panel produced individual comments in response to the charge questions. The panel members then met via teleconference with Battelle to review key technical comments and reach agreement on the Final Panel Comments to be provided to USACE. Each Final Panel Comment was documented using a four-part format consisting of: (1) a comment statement; (2) the basis for the comment; (3) the significance of the comment (high, medium/high, medium, medium/low, or low); and (4) recommendations on how to resolve the comment. Overall, four Final Panel Comments were identified and documented. Of these, two had medium/low significance, and two had low significance.

## Results of the Independent External Peer Review

The panel members agreed on their "assessment of the adequacy and acceptability of the economic, engineering, and environmental methods, models, and analyses used" (USACE, 2012; p. D-4) in the WBV Mitigation Documents review document. Table ES-1 lists the Final Panel Comment statements by

level of significance. The full text of the Final Panel Comments is presented in Section 4.2 of this report. The following summarizes the Panel's findings.

Based on the Panel's review, the PDD and the supplemental documents reveal a well-designed project. The Panel believes that the PDD has presented a series of measures that will meet the mandated compensatory mitigation requirements. The Panel identified some elements of the report that should be clarified or revised with more details that will benefit and improve the understanding of the overall project and report.

**Environmental:** The Panel found that the stated purpose of the PDD (to present a Tentatively Selected Mitigation Plan Alternative [TSMIPA]) and the actual content of the document, which implies that the PDD's purpose is to recommend the purchase of mitigation bank credits as part of the TSMIPA, appear to be in conflict. The PDD needs to be clear in the beginning about the purpose of the document. In addition, the Panel believes that the actual amount of work remaining to make a final decision about the TSMIPA has been understated, resulting in potentially underestimated costs and schedule delays. Detailed information about the steps remaining in the process of selecting a TSMIPA, the schedule for completing those steps, and any resulting schedule or cost implications should be added to the PDD. Finally, the Panel could not determine based on the information provided in the PDD if the negotiations with the National Park Service regarding the mitigation options have been completed or if discussions are ongoing. Clarity on the status of discussions with the National Park Service should be added to the PDD.

**Plan Formulation:** The Panel noted that the 12-page PDD does not contain enough detail to understand the project fully and enough references to the more detailed appendices. Information should be added to the PDD that more fully explains the objectives, process, and findings and references to the appendices should be included. The Panel also noted that the PDD does not fully explain the weighting criteria used in the Alternative Evaluation Process (AEP). Additional detail on these criteria would improve the comprehensiveness of the PDD.

**Table ES-1. Overview of Four Final Panel Comments Identified by the IEPR Panel**

No.	Final Panel Comment
<b>Medium/Low – Significance</b>	
1	The purpose and content of the PDD are in conflict, and the document lacks a clear description of the actual amount of remaining work required to fully understand, evaluate, and make decisions about the WBV mitigation programmatic elements.
2	It is not clear if and/or how the stated position of the National Park Service has been resolved regarding mitigation projects outside versus inside the park.
<b>Low – Significance</b>	
3	The 12-page PDD is not comprehensive enough to serve as a standalone document.
4	The weighting criteria of the AEP and the exclusion of the within-park projects are not fully explained.



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## LIST OF ACRONYMS

<b>AEP</b>	Alternative Evaluation Process
<b>ATR</b>	Agency Technical Review
<b>COI</b>	Conflict of Interest
<b>DrChecks</b>	Design Review and Checking System
<b>EC</b>	Engineer Circular
<b>ERDC</b>	Engineer Research and Development Center
<b>HSDRRS</b>	Hurricane and Storm Damage Risk Reduction System
<b>IEPR</b>	Independent External Peer Review
<b>LWRC</b>	Louisiana Water Resources Council
<b>NEPA</b>	National Environmental Policy Act
<b>OEO</b>	Outside Eligible Organization
<b>OMB</b>	Office of Management and Budget
<b>OMRR&amp;R</b>	operation, maintenance, repair, replacement, and rehabilitation
<b>PDD</b>	Project Decision Document
<b>PDT</b>	Project Delivery Team
<b>PIER</b>	Programmatic Individual Environmental Report
<b>USACE</b>	United States Army Corps of Engineers
<b>USFWS</b>	United States Fish and Wildlife Services
<b>TIER</b>	Tentative Individual Environmental Report
<b>TSMPA</b>	Tentatively Selected Mitigation Plan Alternative
<b>WBV</b>	West Bank and Vicinity
<b>WRDA</b>	Water Resources Development Act

## 1. INTRODUCTION

The purpose of this project is to provide compensatory mitigation for environmental impacts associated with West Bank and Vicinity (WBV) New Orleans, Louisiana Hurricane and Storm Damage Risk Reduction System (HSDRRS) construction work. Activities included in the development of the Decision and Implementation Documents for Environmental Mitigation for WBV HSDRRS include plan formulation; environmental clearance; real estate acquisition; development of plans and specifications; construction; monitoring; operations, maintenance, repair, replacement and rehabilitation (OMRR&R); and adaptive management. Construction of the WBV HSDRRS has caused unavoidable impacts on five habitat types—marsh, bottomland hardwood wet, bottomland hardwood dry, swamp, and water bottoms.

The U.S. Army Corps of Engineers (USACE) will mitigate to the extent possible for impacts on marsh, bottomland hardwood wet, bottomland hardwood dry, and swamp. Mississippi Valley Division, New Orleans District is not planning to mitigate for open water impacts incurred from the WBV HSDRRS. Although open water areas may be productive for estuarine fisheries, there are continuing annual gains in various open water habitats due to the relatively high rates of wetland loss in Louisiana. Interspersed open water within and adjacent to marsh were assessed along with marsh impacts using the Wetland Value Assessment community model. Mitigation was included for lost functions of those aquatic habitats.

Implementation of WBV HSDRRS will be accomplished through development of multiple Project Decision Documents (PDDs), to include an overarching PDD that will demonstrate the overall comprehensive plan for implementation of the authorized features, including but not limited to levees, floodwalls, armoring, and associated structures. The intended function of the PDD is to provide definition and analysis of the project, evidence of compliance with environmental laws and regulations through alternative National Environmental Policy Act (NEPA) requirements, an evaluation of cost effectiveness, and a description of Federal and non-Federal responsibilities.

The PDD provides definitions and analysis of the WBV HSDRRS project, from both the engineering and real estate perspectives, as well as evidence of environmental compliance, cost effectiveness, and a description of Federal and non-Federal responsibilities. The PDD provides documentation that tells how the Government arrived at the final plan; describes the project; and documents what USACE plans to construct within USACE authority and policy.

Independent, objective peer review is regarded as a critical element in ensuring the reliability of scientific analysis. The objective of the work described here was to conduct an Independent External Peer Review (IEPR) of the Decision and Implementation Documents for Environmental Mitigation for West Bank and Vicinity (WBV), New Orleans, Louisiana Hurricane and Storm Damage Risk Reduction System (hereinafter: WBV Mitigation Documents IEPR) in accordance with procedures described in the Department of the Army, USACE Engineer Circular (EC) *Civil Works Review* (EC 1165-2-214) (USACE, 2012) and the Office of Management and Budget (OMB) bulletin *Final Information Quality Bulletin for Peer Review* (OMB, 2004). Supplemental guidance on evaluation for conflicts of interest (COIs) was obtained from the *Policy on Committee Composition and Balance and Conflicts of Interest for Committees Used in the Development of Reports* (The National Academies, 2003).

This final report presents the Final Panel Comments of the IEPR Panel (the Panel) on the existing environmental and plan formulation analyses contained in the WBV Mitigation Documents PDD

(Section 4). Appendix A describes in detail how the IEPR was planned and conducted. Appendix B provides biographical information on the IEPR panel members and describes the method Battelle followed to select them. Appendix C presents the final charge to the IEPR panel members for their use during the review; the final charge was submitted to USACE on July 17, 2014.

## 2. PURPOSE OF THE IEPR

To ensure that USACE documents are supported by the best scientific and technical information, USACE has implemented a peer review process that uses IEPR to complement the Agency Technical Review (ATR), as described in USACE (2012).

In general, the purpose of peer review is to strengthen the quality and credibility of the USACE decision documents in support of its Civil Works program. IEPR provides an independent assessment of the environmental and plan formulation analyses of the project study. In particular, the IEPR addresses the technical soundness of the project study's assumptions, methods, analyses, and calculations and identifies the need for additional data or analyses to make a good decision regarding implementation of alternatives and recommendations.

In this case, the IEPR of the WBV Mitigation Documents was conducted and managed using contract support from Battelle, which is an Outside Eligible Organization (OEO) (as defined by EC 1165-2-214). Battelle, a 501(c)(3) organization under the U.S. Internal Revenue Code, has experience conducting IEPRs for USACE.

## 3. METHODS FOR CONDUCTING THE IEPR

The methods used to conduct the IEPR are briefly described in this section; a detailed description can be found in Appendix A. Table 1 presents the major milestones and deliverables of the WBV Mitigation Documents IEPR. Due dates for milestones and deliverables are based on the award/effective date of June 2, 2014. Note that the work items listed under Task 6 occur after the submission of this report. Battelle anticipates submitting the pdf printout of the USACE's Design Review and Checking System (DrChecks) project file (the final deliverable) on August 25, 2014. The actual date for contract end will depend on the date that all activities for this IEPR are completed.

**Table 1. Major Milestones and Deliverables of the WBV Mitigation Documents IEPR**

Task	Action	Due Date
1	Award/Effective Date	6/2/2014
	Review documents available	6/2/2014
2	Battelle submits list of selected panel members	6/12/2014
	USACE confirms the panel members have no COI	6/12/2014
3	Battelle convenes kick-off meeting with USACE	6/12/2014
	Battelle convenes kick-off meeting with USACE and panel members	6/19/2014

**Table 1. Major Milestones and Deliverables of the WBV Mitigation Documents IEPR (continued)**

Task	Action	Due Date
4	Panel members complete their individual reviews	6/26/2014
	Panel members provide draft Final Panel Comments to Battelle	7/9/2014
5	Battelle submits Final IEPR Report to USACE	7/24/2014
6 <sup>a</sup>	Battelle convenes Comment-Response Teleconference with panel members and USACE	8/12/2014
	Battelle submits pdf printout of DrChecks project file to USACE	8/25/2014
	Contract End/Delivery Date	6/1/2015

<sup>a</sup> Task 6 occurs after the submission of this report.

Battelle identified, screened, and selected two panel members to participate in the IEPR based on their expertise in the following disciplines: Civil Works planning and biology/ecology. The Panel reviewed the WBV Mitigation Documents PDD and produced four Final Panel Comments in response to 13 charge questions provided by USACE for the review. This charge included two questions added by Battelle that sought summary information from the IEPR Panel. Battelle instructed the Panel to develop the Final Panel Comments using a standardized four-part structure:

1. Comment Statement (succinct summary statement of concern)
2. Basis for Comment (details regarding the concern)
3. Significance (high, medium/high, medium, medium/low, or low; in accordance with specific criteria for determining level of significance)
4. Recommendation(s) for Resolution (at least one implementable action that could be taken to address the Final Panel Comment).

Battelle reviewed all Final Panel Comments for accuracy, adherence to USACE guidance (EC 1165-2-214, Appendix D), and completeness prior to determining that they were final and suitable for inclusion in the Final IEPR Report. There was no direct communication between the Panel and USACE during the preparation of the Final Panel Comments. The Panel's findings are summarized in Section 4.1; the Final Panel Comments are presented in full in Section 4.2.

## 4. RESULTS OF THE IEPR

This section presents the results of the IEPR. A summary of the Panel's findings and the full text of the Final Panel Comments are provided.

### 4.1 Summary of Final Panel Comments

The panel members agreed on their "assessment of the adequacy and acceptability of the economic, engineering, and environmental methods, models, and analyses used" (USACE, 2012; p. D-4) in the WBV Mitigation Documents review document. Table ES-1 lists the Final Panel Comment statements by level of significance. The full text of the Final Panel Comments is presented in Section 4.2 of this report. The following summarizes the Panel's findings.

Based on the Panel's review, the PDD and the supplemental documents reveal a well-designed project. The Panel believes that the PDD has presented a series of measures that will meet the mandated compensatory mitigation requirements. The Panel identified some elements of the report that should be clarified or revised with more details that will benefit and improve the understanding of the overall project and report.

**Environmental:** The Panel found that the stated purpose of the PDD (to present a Tentatively Selected Mitigation Plan Alternative [TSMIPA]) and the actual content of the document, which implies that the PDD's purpose is to recommend the purchase of mitigation bank credits as part of the TSMIPA, appear to be in conflict. The PDD needs to be clear in the beginning about the purpose of the document. In addition, the Panel believes that the actual amount of work remaining to make a final decision about the TSMIPA has been understated, resulting in potentially underestimated costs and schedule delays. Detailed information about the steps remaining in the process of selecting a TSMIPA, the schedule for completing those steps, and any resulting schedule or cost implications should be added to the PDD. Finally, the Panel could not determine based on the information provided in the PDD if the negotiations with the National Park Service regarding the mitigation options have been completed or if discussions are ongoing. Clarity on the status of discussions with the National Park Service should be added to the PDD.

**Plan Formulation:** The Panel thinks that the 12-page PDD does not contain enough detail to understand the project fully and enough references to the more detailed appendices. Information should be added to the PDD that more fully explains the objectives, process, and findings and references to the appendices should be included. The Panel also noted that the PDD does not fully explain the weighting criteria used in the Alternative Evaluation Process (AEP). Additional detail on these criteria would improve the comprehensiveness of the PDD.

## 4.2 Final Panel Comments

This section presents the full text of the Final Panel Comments prepared by the IEPR panel members.

## Final Panel Comment 1

**The purpose and content of the PDD are in conflict, and the document lacks a clear description of the actual amount of remaining work required to fully understand, evaluate, and make decisions about the WBV mitigation programmatic elements.**

### Basis for Comment

The PDD states (p. 3) that its intended purpose is to present a TSMPA that will provide compensatory mitigation for HSDRRS project-related impacts. This statement implies that its purpose is to put forward for evaluation the entirety of the TSMPA. However, once the entire PDD has been read, it appears that its actual primary purpose is the recommendation to purchase mitigation bank credits as part of the TSMPA. The seemingly conflicting purpose statements in the PDD may lead to expectations of more rapid implementation of the TSMPA than is actually possible.

For example, in several places in the PDD and Programmatic Individual Environmental Report (PIER) #37, reference is made to significant uncertainties in the acceptability, scaling, and additional documentation required for programmatic elements of the WBV mitigation. While the PDD does state that additional documentation is required for each of the programmatic elements, it may understate that significant additional work is required to finalize the TSMPA. Examples of additional work include rescaling, potential renegotiation of sites, field studies, and modeling. Delays as additional work is performed may result in a temporal loss of wetlands functions and values as elements of the HSDRRS move forward. Projected costs may be underestimated, including ongoing operation and maintenance costs to be borne by the non-Federal sponsor.

### Significance – Medium/Low

The completeness of the documentation is affected by the absence of an early, clear description of the PDD's purpose, and an adequate explanation of the volume of additional work required prior to finalization and implementation.

### Recommendations for Resolution

1. Describe early in the PDD that the purpose of the document is to recommend purchase of mitigation bank credits as part of the TSMPA, and that the programmatic elements require more analysis and evaluation.
2. Explain in greater detail the additional steps required to arrive at the TSMPA and the schedule for completing these steps (negotiations with the National Park Service, field studies, modeling, and development and publication of a tiered Individual Environmental Report [TIER] for each element).
3. Address the effects on the PDD of existing uncertainties such as delays and costs associated with ongoing analysis, evaluation, and documentation (e.g., the temporal loss of wetlands function and values) and how these effects will be compensated for.
4. Describe any other potential impacts that may result from changes to the programmatic elements of the TSMPA.

## Final Panel Comment 2

**It is not clear if and/or how the stated position of the National Park Service has been resolved regarding mitigation projects outside versus inside the park.**

### Basis for Comment

In PIER #37 (Appendix R, Agency Comments), the National Park Service, in a letter dated May 2, 2014, states that the TSMMPA does not reflect mitigation options that were “agreed upon in the past.” The letter also implies that continuing negotiations are in progress. However, no further information is provided, leading to uncertainty that may impact schedule, construction costs, and estimated operation and maintenance costs to be borne by the non-Federal sponsor.

### Significance – Medium/Low

Without more information on the nature of ongoing negotiations with the National Park Service regarding proposed mitigation sites, the Panel cannot currently analyze or assess the TSMMPA.

### Recommendations for Resolution

1. Describe in the PDD the current status of negotiations with the National Park Service regarding proposed mitigation sites.
2. Describe in the PDD the process that will be used to satisfy the National Park Service’s concerns regarding the acceptability of the TSMMPA.
3. Explain in the PDD the potential effects of changing or adding more mitigation sites to the TSMMPA on the schedule, project costs, and operating and maintenance costs, as well as any other possible impacts.



### Final Panel Comment 3

**The 12-page PDD is not comprehensive enough to serve as a standalone document.**

#### Basis for Comment

The Panel needed to refer to the appendices and the PIER to obtain sufficient detail to fully understand the project and respond to the charge questions. The 12-page PDD does not contain enough information from a Civil Works perspective. In addition, the PDD does not include enough references as to which appendix should be consulted for more information, making it challenging to find it. A modest increase in the amount of information in the PDD would improve understanding of the Alternative Evaluation Process (AEP), weighting, objectives, and projects (considered and justified).

#### Significance – Low

The lack of detail in the PDD affects the understanding of the report.

#### Recommendations for Resolution

1. Provide a rationale for why the PDD was limited to 12 pages.
2. Provide references in the PDD to the appendices.
3. Consider adding text to the PDD that explains more fully the process, projects, and objectives.

## Final Panel Comment 4

**The weighting criteria of the AEP and the exclusion of the within-park projects are not fully explained.**

### Basis for Comment

The AEP is an acceptable method to screen the alternatives and the explanation of its usage is more than adequate. However, additional detail on the weighting process would have allowed better understanding of the internal prioritization process.

In addition, in the June 19 kickoff teleconference with USACE (facilitated by Battelle), USACE mentioned that the within-park projects were not included in the AEP. The reasoning behind not including them was not made clear in the PDD or on the teleconference.

### Significance – Low

The lack of detail in explaining the weighting process and why the within-park projects were not evaluated using the AEP affects the understanding of the project.

### Recommendations for Resolution

1. Identify the reasons why within-park projects were treated differently and were not part of the AEP.
2. Provide additional detail on the weighting process for the AEP.

## 5. REFERENCES

OMB (2004). Final Information Quality Bulletin for Peer Review. Executive Office of the President, Office of Management and Budget, Washington, D.C. Memorandum M-05-03. December 16.

The National Academies (2003). Policy on Committee Composition and Balance and Conflicts of Interest for Committees Used in the Development of Reports. The National Academies (National Academy of Science, National Academy of Engineering, Institute of Medicine, National Research Council). May 12.

USACE (2012). Water Resources Policies and Authorities: Civil Works Review. Department of the Army, U.S. Army Corps of Engineers, Washington, D.C. Engineer Circular (EC) 1165-2-214. December 15.

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# APPENDIX A

IEPR Process for the WBV Mitigation Documents Project

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## A.1 Planning and Conduct of the Independent External Peer Review (IEPR)

Table A-1 presents the schedule followed in executing the Decision and Implementation Documents for Environmental Mitigation for West Bank and Vicinity, New Orleans, Louisiana Hurricane and Storm Damage Risk Reduction System Independent External Peer Review (hereinafter: WBV Mitigation Documents IEPR). Due dates for milestones and deliverables are based on the award/effective date of June 2, 2014. The review documents were provided by the U.S. Army Corps of Engineers (USACE) on June 2, 2014. Note that the work items listed under Task 6 occur after the submission of this report. Battelle will enter the four Final Panel Comments developed by the Panel into USACE's Design Review and Checking System (DrChecks), a Web-based software system for documenting and sharing comments on reports and design documents, so that USACE can review and respond to them. USACE will provide responses (Evaluator Responses) to the Final Panel Comments, and the Panel will respond (BackCheck Responses) to the Evaluator Responses. All USACE and Panel responses will be documented by Battelle. Battelle will provide USACE and the Panel a pdf printout of all DrChecks entries, through comment closeout, as a final deliverable and record of the IEPR results.

**Table A-1. WBV Mitigation Documents Complete IEPR Schedule**

Task	Action	Due Date
<b>1</b>	Award/Effective Date	6/2/2014
	Review documents available	6/2/2014
	Battelle submits draft Work Plan*	6/12/2014
	USACE provides comments on draft Work Plan	6/17/2014
	Battelle submits final Work Plan*	7/14/2014
<b>2</b>	Battelle requests input from USACE on the conflict of interest (COI) questionnaire	6/10/2014
	USACE provides comments on COI questionnaire	6/11/2014
	Battelle submits list of selected panel members*	6/12/2014
	USACE confirms the panel members have no COI	6/16/2014
	Battelle completes subcontracts for panel members	6/19/2014
<b>3</b>	Battelle convenes kick-off meeting with USACE	6/12/2014
	Battelle sends review documents to panel members	6/19/2014
	Battelle convenes kick-off meeting with panel members	6/19/2014
	Battelle convenes kick-off meeting with USACE and panel members	6/19/2014

**Table A-1. WBV Mitigation Documents Complete IEPR Schedule (continued)**

Task	Action	Due Date
4	Panel members complete their individual reviews	6/26/2014
	Battelle provides panel members with talking points for Panel Review Teleconference	7/1/2014
	Battelle convenes Panel Review Teleconference	7/1/2014
	Battelle provides Final Panel Comment templates and instructions to panel members	7/2/2014
	Panel members provide draft Final Panel Comments to Battelle	7/9/2014
	Battelle provides feedback to panel members on draft Final Panel Comments; panel members revise Final Panel Comments	7/9-7/17/2014
	Panel finalizes Final Panel Comments	7/17/2014
5	Battelle provides Final IEPR Report to panel members for review	7/18/2014
	Panel members provide comments on Final IEPR Report	7/22/2014
	Battelle submits Final IEPR Report to USACE*	<b>7/24/2014</b>
6 <sup>a</sup>	Battelle inputs Final Panel Comments to DrChecks and provides Final Panel Comment response template to USACE	7/25/2014
	Battelle convenes teleconference with USACE to review the Post-Final Panel Comment Response Process	7/22/2014
	USACE provides draft Project Delivery Team (PDT) Evaluator Responses to Battelle	7/31/2014
	Battelle provides the panel members the draft PDT Evaluator Responses	8/1/2014
	Panel members provide Battelle with draft BackCheck Responses	8/7/2014
	Battelle convenes teleconference with panel members to discuss draft BackCheck Responses	8/11/2014
	Battelle convenes Comment-Response Teleconference with panel members and USACE	8/12/2014
	USACE inputs final PDT Evaluator Responses to DrChecks	8/15/2014
	Battelle provides final PDT Evaluator Responses to panel members	8/18/2014
	Panel members provide Battelle with final BackCheck Responses	8/21/2014
	Battelle inputs the Panel's final BackCheck Responses in DrChecks	8/22/2014
	Battelle submits pdf printout of DrChecks project file*	8/25/2014
	Contract End/Delivery Date	6/1/2015

\* Deliverable

<sup>a</sup> Task 6 occurs after the submission of this report.



At the beginning of the Period of Performance for the WBV Mitigation Documents IEPR, Battelle held a kick-off meeting with USACE to review the preliminary/suggested schedule, discuss the IEPR process, and address any questions regarding the scope (e.g., clarify expertise areas needed for panel members). Any revisions to the schedule were submitted as part of the final Work Plan. In addition, eleven charge questions were provided by USACE and included in the draft and final Work Plans. Battelle added two questions that seek summary information from the IEPR Panel. The final charge also included general guidance for the Panel on the conduct of the peer review (provided in Appendix C of this final report).

Prior to beginning their review and within one day of their subcontracts being finalized, all members of the Panel attended a kick-off meeting via teleconference planned and facilitated by Battelle in order to review the IEPR process, the schedule, communication procedures, and other pertinent information for the Panel. Battelle planned and facilitated a second kick-off meeting via teleconference during which USACE presented project details to the Panel. Before the meetings, the IEPR Panel received an electronic version of the final charge as well as the WBV Mitigation Documents review documents and reference materials listed below. The documents and files in bold font were provided for review; the other documents were provided for reference or supplemental information only.

- **Project Description Document, West Bank and Vicinity, Hurricane and Storm Damage Risk Reduction System, Mitigation (12 pages)**
- WBV PDD Appendix A1: Alternative Evaluation Process (10 pages)
- WBV PDD Appendix A2: Planning Supplement (162 pages)
- WBV PDD Appendix B: Programmatic Individual Environmental Report, #37 (221 pages, plus appendices)
- WBV PDD Appendix C: Engineering Alternatives Report (500 pages)
- WBV PDD Appendix D: Preliminary Mitigation Bank Cost Estimates (1 page)
- WBV PDD Appendix E: Video Teleconference Fact Sheets (10 pages)
- WBV PDD Appendix F: Project Partnership Agreement (46 pages)
- USACE guidance Civil Works Review (EC 1165-2-214, 15 December 2012)
- Office of Management and Budget's *Final Information Quality Bulletin for Peer Review* (December 16, 2004).

## **A.2 Review of Individual Comments**

The Panel was instructed to address the charge questions/discussion points within a charge question response table provided by Battelle. At the end of the review period, the Panel produced individual comments in response to the charge questions/discussion points. Battelle reviewed the comments to identify overall recurring themes, areas of potential conflict, and other overall impressions. At the end of the review, Battelle summarized the individual comments in a preliminary list of five overall comments and discussion points. Each panel member's individual comments were shared with the full Panel in a merged individual comments table.

### A.3 IEPR Panel Teleconference

Battelle facilitated a one-hour teleconference with the Panel so that the panel members could exchange technical information. The main goal of the teleconference was to identify which issues should be carried forward as Final Panel Comments in the Final IEPR Report and decide which panel member would serve as the lead author for the development of each Final Panel Comment. This information exchange ensured that the Final IEPR Report would accurately represent the Panel's assessment of the project, including any conflicting opinions. The Panel engaged in a thorough discussion of the overall positive and negative comments, added any missing issues of significant importance to the findings, and merged any related individual comments. At the conclusion of the teleconference, Battelle reviewed each Final Panel Comment with the Panel, including the associated level of significance, and confirmed the lead author for each comment.

At the end of these discussions, the Panel identified five comments and discussion points that should be brought forward as Final Panel Comments.

### A.4 Preparation of Final Panel Comments

Following the teleconference, Battelle prepared a summary memorandum for the Panel documenting each Final Panel Comment (organized by level of significance). The memorandum provided the following detailed guidance on the approach and format to be used to develop the Final Panel Comments for the WBV Mitigation Documents IEPR:

- **Lead Responsibility:** For each Final Panel Comment, one Panel member was identified as the lead author responsible for coordinating the development of the Final Panel Comment and submitting it to Battelle. Battelle modified lead assignments at the direction of the Panel. To assist each lead in the development of the Final Panel Comments, Battelle distributed the merged individual comments table, a summary detailing each draft final comment statement, an example Final Panel Comment following the four-part structure described below, and templates for the preparation of each Final Panel Comment.
- **Directive to the Lead:** Each lead was encouraged to communicate directly with the other panel member as needed and to contribute to a particular Final Panel Comment. If a significant comment was identified that was not covered by one of the original Final Panel Comments, the appropriate lead was instructed to draft a new Final Panel Comment.
- **Format for Final Panel Comments:** Each Final Panel Comment was presented as part of a four-part structure:
  1. Comment Statement (succinct summary statement of concern)
  2. Basis for Comment (details regarding the concern)
  3. Significance (high, medium/high, medium, medium/low, and low; see description below)
  4. Recommendation(s) for Resolution (see description below).
- **Criteria for Significance:** The following were used as criteria for assigning a significance level to each Final Panel Comment:

1. **High:** Describes a fundamental issue with the project that affects the current recommendation or justification of the project, and which will affect its future success, if the project moves forward without the issue being addressed. Comments rated as high indicate that the Panel determined that the current methods, models, and/or analyses contain a “showstopper” issue.
  2. **Medium/High:** Describes a potential fundamental issue with the project, which has not been evaluated at a level appropriate to this stage in the Planning process. Comments rated as medium/high indicate that the Panel analyzed or assessed the methods, models, and/or analyses available at this stage in the Planning process and has determined that if the issue is not addressed, it could lead to a “showstopper” issue.
  3. **Medium:** Describes an issue with the project, which does not align with the currently assessed level of risk assigned at this stage in the Planning process. Comments rated as medium indicate that, based on the information provided, the Panel identified an issue that would raise the risk level if the issue is not appropriately addressed.
  4. **Medium/Low:** Affects the completeness of the report at this time in describing the project, but will not affect the recommendation or justification of the project. Comments rated as medium/low indicate that the Panel does not currently have sufficient information to analyze or assess the methods, models, or analyses.
  5. **Low:** Affects the understanding or accuracy of the project as described in the report, but will not affect the recommendation or justification of the project. Comments rated as low indicate that the Panel identified information that was mislabeled or incorrect or that certain data or report section(s) were not clearly described or presented.
- Guidelines for Developing Recommendations: The recommendation section was to include specific actions that USACE should consider to resolve the Final Panel Comment (e.g., suggestions on how and where to incorporate data into the analysis, how and where to address insufficiencies, areas where additional documentation is needed).

Battelle reviewed and edited the Final Panel Comments for clarity, consistency with the comment statement, and adherence to guidance on the Panel’s overall charge, which included ensuring that there were no comments regarding either the appropriateness of the selected alternative or USACE policy. During the Final Panel Comment development process, the Panel determined that two of the Final Panel Comments could be merged together; therefore, the total Final Panel Comment count was reduced to four. There was no direct communication between the Panel and USACE during the preparation of the Final Panel Comments. The Final Panel Comments are presented in the main report.

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# APPENDIX B

Identification and Selection of IEPR Panel Members  
for the WBV Mitigation Documents Project

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## B.1 Panel Identification

The candidates for the Decision and Implementation Documents for Environmental Mitigation for West Bank and Vicinity (WBV), New Orleans, Louisiana Hurricane and Storm Damage Risk Reduction System (hereinafter: WBV Mitigation Documents IEPR) Panel were evaluated based on their technical expertise in the following key areas: Civil Works planning and biology/ecology. These areas correspond to the technical content of the WBV Mitigation Documents IEPR review documents and overall scope of the WBV Mitigation Documents project.

Civil Works planning and biology/ecology are both technical areas of expertise previously identified for the Louisiana Water Resources Council (LWRC, as defined in the Water Resources Development Act [WRDA] 2007, Section 7009) Primary Panel. Battelle consulted with the appropriate LWRC Primary Panel Members for these expertise areas (Dr. Ken Casavant and Ms. Kay Crouch) and confirmed that their expertise and schedule commitments made them suitable to serve on the Panel.

Battelle made the final selection of panel members according to the selection criteria described in the Work Plan. The final Panel was composed of two expert reviewers, both of whom came from the LWRC Primary Panel. Information about the candidate panel members, including brief biographical information, highest level of education attained, and years of experience, was provided to USACE for feedback.

The candidates were screened for the following potential exclusion criteria or COIs.<sup>1</sup> These COI questions serve as a means of disclosure and to better characterize a candidate's employment history and background. Providing a positive response to a COI screening question did not automatically preclude a candidate from serving on the Panel. For example, participation in previous USACE technical peer review committees and other technical review panel experience was included as a COI screening question. A positive response to this question could be considered a benefit.

- Previous and/or current involvement by you or your firm<sup>2</sup> in the West Bank And Vicinity (WBV) New Orleans, Louisiana Hurricane And Storm Damage Risk Reduction System (HSDRRS) project.
- Previous and/or current involvement by you or your firm<sup>2</sup> in flood risk management projects in Louisiana.
- Previous and/or current involvement by you or your firm<sup>2</sup> in WBV HSDRRS-related projects.

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<sup>1</sup> Battelle evaluated whether scientists in universities and consulting firms that are receiving USACE-funding have sufficient independence from USACE to be appropriate peer reviewers. See OMB (2004, p. 18), "...when a scientist is awarded a government research grant through an investigator-initiated, peer-reviewed competition, there generally should be no question as to that scientist's ability to offer independent scientific advice to the agency on other projects. This contrasts, for example, to a situation in which a scientist has a consulting or contractual arrangement with the agency or office sponsoring a peer review. Likewise, when the agency and a researcher work together (e.g., through a cooperative agreement) to design or implement a study, there is less independence from the agency. Furthermore, if a scientist has repeatedly served as a reviewer for the same agency, some may question whether that scientist is sufficiently independent from the agency to be employed as a peer reviewer on agency-sponsored projects."

<sup>2</sup> Includes any joint ventures in which the panel member's firm is involved and if the firm serves as a prime or as a subcontractor to a prime.

- Previous and/or current involvement by you or your firm<sup>2</sup> in the conceptual or actual design, construction, or operation and maintenance of any WBV HSDRRS-related projects.
- Previous and/or current involvement by you or your firm<sup>2</sup> in any current or proposed mitigation bank in Louisiana.
- Current employment by the U.S. Army Corps of Engineers (USACE).
- Previous and/or current involvement with paid or unpaid expert testimony related to the WBV HSDRRS project.
- Previous and/or current employment or affiliation with the Coastal Protection and Restoration Authority, the Louisiana Office of Coastal Protection and Restoration, the state of Louisiana, U.S. Fish and Wildlife Service, Louisiana Wildlife and Fisheries, National Park Service, U.S. Environmental Protection Agency and/or the National Oceanic and Atmospheric Administration (for pay or pro bono).
- Past, current, or future interests or involvements (financial or otherwise) by you, your spouse, or your children related to southern Louisiana and/or the greater New Orleans area.
- Current personal involvement with other USACE projects, including whether involvement was to author any manuals or guidance documents for USACE. If yes, provide titles of documents or description of project, dates, and location (USACE district, division, Headquarters, ERDC, etc.), and position/role. Please highlight and discuss in greater detail any projects that are specifically with the New Orleans District.
- Current firm<sup>2</sup> involvement with other USACE projects, specifically those projects/contracts that are with the New Orleans District. If yes, provide title/description, dates, and location (USACE district, division, Headquarters, ERDC, etc.), and position/role. Please also clearly delineate the percentage of work you personally are currently conducting for the New Orleans District. Please explain.
- Any previous employment by USACE as a direct employee, notably if employment was with the New Orleans District. If yes, provide title/description, dates employed, and place of employment (district, division, Headquarters, ERDC, etc.), and position/role.
- Any previous employment by USACE as a contractor (either as an individual or through your firm<sup>2</sup>) within the last 10 years, notably if those projects/contracts are with the New Orleans District. If yes, provide title/description, dates employed, and place of employment (district, division, Headquarters, ERDC, etc.), and position/role.
- Previous experience conducting technical peer reviews. If yes, please highlight and discuss any technical reviews concerning flood management, and include the client/agency and duration of review (approximate dates).
- Pending, current, or future financial interests in WBV HSDRRS project-related contracts/awards from USACE.



- A significant portion (i.e., greater than 50%) of personal or firm<sup>2</sup> revenues within the last 3 years came from USACE contracts.
- A significant portion (i.e., greater than 50%) of personal or firm<sup>2</sup> revenues within the last 3 years from contracts with the non-Federal sponsors (Coastal Protection and Restoration Authority and Louisiana Office of Coastal Protection and Restoration).
- Any publicly documented statement (including, for example, advocating for or discouraging against) related to the WBV HSDRRS project.
- Participation in relevant prior and/or current Federal studies relevant to this project and/or the WBV HSDRRS project.
- Previous and/or current participation in prior non-Federal studies relevant to this project and/or the WBV HSDRRS project.

Other considerations:

- Participation in previous USACE technical review panels
- Other technical review panel experience.

## **B.2 Panel Selection**

In selecting the final members of the Panel, Battelle chose experts who best fit the expertise areas and had no COIs. One of the two final reviewers is affiliated with a consulting company; the other is an independent consultant. Battelle established subcontracts with the panel members when they indicated their willingness to participate and confirmed the absence of COIs through a signed COI form. USACE was given the list of candidate panel members, but Battelle selected the final Panel.

An overview of the credentials of the final two members of the Panel and their qualifications in relation to the technical evaluation criteria is presented in Table B-1. More detailed biographical information regarding each panel member and his or her area of technical expertise is presented in Section B.3.

**Table B-1. WBV Mitigation Documents IEPR Panel: Technical Criteria and Areas of Expertise**

Technical Criterion	Casavant	Crouch
<b>Civil Works Planning</b>		
Minimum 10 years of experience in public works planning	X	
Familiarity with USACE plan formulation process, standards, and procedures	X	
Familiarity with USACE hurricane and coastal storm damage risk management projects	X	
Minimum 5 years of experience directly dealing with the USACE six-step planning process, governed by ER 1105-2-100 (Planning Guidance Notebook)	X	
Experience identifying and evaluating impacts to environmental resources from structural flood risk management and hurricane and coastal storm damage risk management projects	X	
Direct experience working for or with USACE	X	
<b>Biology/Ecology</b>		
Minimum 10 years or experience in evaluation and conducting National Environmental Policy Act (NEPA) impact assessments, including cumulative effects analyses, for complex multi-objective public works projects with competing trade-offs		X
Knowledge of Endangered Species Act with regional knowledge of south Louisiana specific regulatory requirements		X
Experience working with NEPA impact assessment in marsh and urban areas and related ecosystem species and habitats		X
Familiarity with USACE calculation of evaluation of environmental benefits		X
Extensive background experience with and working knowledge of the implementation of the NEPA compliance process		X
M.S. degree or higher in an appropriate field of study		X

### B.3 Panel Member Qualifications

#### ***Ken Casavant, Ph.D.***

**Role:** Civil Works planning experience and expertise.

**Affiliation:** Independent Consultant

**Dr. Casavant** is a professor and agricultural economist at the School of Economic Sciences at Washington State University, Director of the Freight Policy Transportation Institute, and adjunct professor at North Dakota State's Upper Great Plains Transportation Institute since 2002. He earned his Ph.D. in economics from Washington State University in 1971 and has 45 years of experience as an economist, with expertise in transportation economics and planning.

Dr. Casavant also has over 10 years' experience in plan formulation, evaluation, and comparison of alternative plans for numerous USACE projects, including coastal storm risk management, ecosystem restoration, and navigation studies. He provided technical reviews of the Lower Columbia River Channel Deepening Project, the Upper Mississippi and Illinois Navigation Study, the Barataria Basin Barrier Shoreline Restoration Study, the Donaldsonville to the Gulf flood control project, the Morganza to the Gulf of Mexico Hurricane Protection Project, and the Mississippi River Gulf Outlet Ecosystem Restoration Plan, among others. All of these technical reviews involved analyzing, evaluating, and comparing alternative plans and analyses and evaluating the projects against the USACE six-step planning process.

His review work on these USACE projects have familiarized him with a detailed and complete inventory of USACE standards and procedures including the IWR-Planning Suite methodologies, with a focus on ecological output per dollar of relevant expenditure for alternative project formulations. His experience with the USACE six-step planning process, which is governed by ER 1105-2-100, Planning Guidance Notebook (USACE, 2000), has been established from his work as a technical reviewer and peer reviewer on more than 20 projects. These include the Port of Iberia Channel Deepening Project in 2006 for USACE, the External Independent Economic Opinion on Identifying and Measuring National Economic Development Benefits: Navigation Shipping, and the Morganza to the Gulf study, a hurricane protection and storm damage risk reduction project.

Dr. Casavant has experience identifying and evaluating impacts on environmental resources from structural flood risk and impacts related to hurricane and coastal storm damage risk reduction projects. The six most recent projects he has contributed to had critical components concerning the impacts of environmental resources from flood risk and coastal storm damage. He has also been a plan formulator expert on five separate IEPRs, several of which had a specific objective to evaluate the damage reduction and the risk associated with achieving benefits of the flood risk management and one project focused specifically on the impact on shorelines.

Dr. Casavant has published more than 70 journal articles and has contributed to hundreds of other publications. He is a member of numerous professional associations including the Transportation Research Board, National Research Council, the International Agricultural Economics Association, and the Logistics and Physical Distribution Association.

## **Kay Crouch**

**Role:** Biology/ecology experience and expertise.

**Affiliation:** Crouch Environmental Services, Inc.

**Ms. Crouch** is the president of Crouch Environmental Services, Inc., a company specializing in NEPA analysis, environmental site assessment, permitting, and mitigation for projects with high public and interagency interests. She earned her M.S. in aquatic biology/ecology in 1978 from Steven F. Austin State University, and has received 100 hours of additional NEPA training from Duke University (2004-2006).

Ms. Crouch has over 30 years of nationwide experience in conducting environmental site assessments and NEPA impact assessments for complex multi-objective public works projects with competing trade-offs. Examples of such projects include the Clear Creek Flood Damage Reduction Project (USACE, Galveston), the Bayport Container Terminal (Port of Houston, Texas), and a number of highway and roadway projects for the Texas Department of Transportation. For the first 10 years of her consulting career, Ms. Crouch worked predominately in Louisiana performing NEPA analyses for oil and gas pipelines crossing the Louisiana Coastal Zone. She also has over 30 years of experience in the application and analysis of species and habitats pursuant to the Endangered Species Act, including specific experience in Louisiana. Every NEPA project she has performed and every wetlands permit she has obtained have required a field investigation, literature research, and documentation of listed species.

Ms. Crouch is a specialist in marsh habitat (both freshwater and saline) and has been analyzing marsh habitats (including those in urban areas) for over 30 years. Specific cases include the award-winning Baytown Nature Center project, which was a 60-acre marsh created from an abandoned subdivision as mitigation for a Superfund site; marsh creation projects at the mouth of Cedar Bayou and at Barbour's Cut Container Terminal; the restoration of prairie lowland in Deer Park, Texas; and gamma grass restoration projects in coastal prairies.

Ms. Crouch is familiar with USACE calculations and application of environmental impacts and benefits and routinely performs cumulative effects analyses on high visibility public works projects as part of her extensive NEPA practice. All NEPA projects that she has performed for USACE have required the calculation of environmental benefits, using Hydrogeomorphic Model, Habitat Evaluation Procedures, Wetland Value Assessment, and other models to establish losses and benefits. Most recently, she performed this analysis for the Addicks and Barker Dams Environmental Assessment in Harris County, Texas for the Galveston District. In addition, all the IEPRs that she has participated in have involved benefit calculation analyses.

# APPENDIX C

Final Charge to the IEPR Submitted to USACE on July 17, 2014 for the  
WBV Mitigation Documents Project

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# **Charge Questions and Guidance to the Panel Members for the IEPR of the Decision And Implementation Documents For Environmental Mitigation For West Bank And Vicinity, New Orleans, Louisiana, Hurricane And Storm Damage Risk Reduction System**

## **BACKGROUND**

The purpose of this project is to provide compensatory mitigation for environmental impacts associated with West Bank and Vicinity (WBV) New Orleans, Louisiana Hurricane and Storm Damage Risk Reduction System (HSDRRS) construction work. Activities included in the development of the Decision and Implementation Documents for Environmental Mitigation for WBV HSDRRS include plan formulation; environmental clearance; real estate acquisition; development of plans and specifications; construction; monitoring; operations, maintenance, repair, replacement and rehabilitation (OMRR&R); and adaptive management. Construction of the WBV HSDRRS has caused unavoidable impacts on five habitat types—marsh, bottomland hardwood wet, bottomland hardwood dry, swamp, and water bottoms.

USACE will mitigate to the extent possible for impacts on marsh, bottomland hardwood wet, bottomland hardwood dry, and swamp. Mississippi Valley Division, New Orleans District is not planning to mitigate for open water impacts incurred from the WBV HSDRRS. Although open water areas may be productive for estuarine fisheries, there are continuing annual gains in various open water habitats due to the relatively high rates of wetland loss in Louisiana. Interspersed open water within and adjacent to marsh were assessed along with marsh impacts using the Wetland Value Assessment community model. Mitigation was included for lost functions of those aquatic habitats.

Implementation of WBV HSDRRS will be accomplished through development of multiple Project Decision Documents (PDDs), to include an overarching PDD that will demonstrate the overall comprehensive plan for implementation of the authorized features, including but not limited to levees, floodwalls, armoring, and associated structures. The intended function of the PDD is to provide definition and analysis of the project, evidence of compliance with environmental laws and regulations through alternative National Environmental Policy Act (NEPA) requirements, an evaluation of cost effectiveness, and a description of Federal and non-Federal responsibilities.

The PDD provides definitions and analysis of the WBV HSDRRS project, from both the engineering and real estate perspectives, as well as evidence of environmental compliance, cost effectiveness, and a description of Federal and non-Federal responsibilities.

The PDD provides documentation that tells how the Government arrived at the final plan, describes the project, and documents what USACE plans to construct within USACE authority and policy.

## OBJECTIVES

The objective of this work is to conduct an independent external peer review (IEPR) of the Decision and Implementation Documents for Environmental Mitigation for West Bank and Vicinity, New Orleans, Louisiana Hurricane and Storm Damage Risk Reduction System (hereinafter: WBV Mitigation Documents IEPR) in accordance with the Department of the Army, U.S. Army Corps of Engineers (USACE), Water Resources Policies and Authorities' *Civil Works Review* (Engineer Circular [EC] 1165-2-214, dated December 15, 2012), and the Office of Management and Budget's *Final Information Quality Bulletin for Peer Review* (December 16, 2004).

Peer review is one of the important procedures used to ensure that the quality of published information meets the standards of the scientific and technical community. Peer review typically evaluates the clarity of hypotheses, validity of the research design, quality of data collection procedures, robustness of the methods employed, appropriateness of the methods for the hypotheses being tested, extent to which the conclusions follow from the analysis, and strengths and limitations of the overall product.

The purpose of the IEPR is to assess the "adequacy and acceptability of the economic, engineering, and environmental methods, models, and analyses used" (EC 1165-2-214; p. D-4) for the WBV Mitigation Documents. The IEPR will be limited to technical review and will not involve policy review. The IEPR will be conducted by subject matter experts (i.e., IEPR panel members) with extensive experience in Civil Works planning and biology/ecology issues relevant to the project. They will also have experience applying their subject matter expertise to flood risk management.

The Panel will be "charged" with responding to specific technical questions as well as providing a broad technical evaluation of the overall project. Per EC 1165-2-214, Appendix D, review panels should identify, explain, and comment upon assumptions that underlie all the analyses, as well as evaluate the soundness of models, surveys, investigations, and methods. Review panels should be able to evaluate whether the interpretations of analysis and the conclusions based on analysis are reasonable. Reviews should focus on assumptions, data, methods, and models. The panel members may offer their opinions as to whether there are sufficient analyses upon which to base a recommendation.

## DOCUMENTS PROVIDED

The following is a list of documents, supporting information, and reference materials that will be provided for the review.

### Documents for Review

The following documents are to be reviewed by designated discipline:

Title	Number of Pages
<b>Review Documents</b>	
<b>Project Description Document</b>	12
<b>Total Pages</b>	<b>12</b>



Supplemental Documents	
WBV PDD Appendix A1: Alternative Evaluation Process	10
WBV PDD Appendix A2: Planning Supplement	162
WBV PDD Appendix B: Programmatic Individual Environmental Report, #37	221, plus appendices
WBV PDD Appendix C: Engineering Alternatives Report	500
WBV PDD Appendix D: Preliminary Mitigation Bank Cost Estimates	1
WBV PDD Appendix E: Video Teleconference Fact Sheets	10
WBV PDD Appendix F: Project Partnership Agreement	46

## Documents for Reference

- USACE guidance *Civil Works Review* (EC 1165-2-214, 15 December 2012)
- Office of Management and Budget's *Final Information Quality Bulletin for Peer Review* (December 16, 2004).

## SCHEDULE

This final schedule is based on the June 2, 2014 receipt of the final review documents.

Task	Action	Due Date
<b>Conduct Peer Review</b>	Battelle sends review documents to panel members	6/19/2014
	Battelle convenes kick-off meeting with panel members	6/19/2014
	Battelle convenes kick-off meeting with USACE and panel members	6/19/2014
	Battelle convenes mid-review teleconference for panel members to ask clarifying questions of USACE (if needed)	6/23/2014
	Panel members complete their individual reviews	6/26/2014
<b>Prepare Final Panel Comments and Final IEPR Report</b>	Battelle provides panel members with talking points for Panel Review Teleconference	7/1/2014
	Battelle convenes Panel Review Teleconference	7/1/2014
	Battelle provides Final Panel Comment templates and instructions to panel members	7/2/2014
	Panel members provide draft Final Panel Comments to Battelle	7/9/2014
	Battelle provides feedback to panel members on draft Final Panel Comments; panel members revise Final Panel Comments	7/9-7/17/2014

Task	Action	Due Date
	Panel finalizes Final Panel Comments	7/17/2014
	Battelle provides Final IEPR Report to panel members for review	7/18/2014
	Panel members provide comments on Final IEPR Report	7/22/2014
	Battelle submits Final IEPR Report to USACE	7/24/2014
<b>Comment/ Response Process</b>	Battelle inputs Final Panel Comments to DrChecks and provides Final Panel Comment response template to USACE	7/25/2014
	USACE provides draft PDT Evaluator Responses to Battelle	7/31/2014
	Battelle provides the panel members the draft PDT Evaluator Responses	8/1/2014
	Panel members provide Battelle with draft BackCheck Responses	8/7/2014
	Battelle convenes teleconference with panel members to discuss draft BackCheck Responses	8/11/2014
	Battelle convenes Comment-Response Teleconference with panel members and USACE	8/12/2014
	USACE inputs final PDT Evaluator Responses to DrChecks	8/15/2014
	Battelle provides PDT Evaluator Responses to panel members	8/18/2014
	Panel members provide Battelle with final BackCheck Responses	8/21/2014
	Battelle inputs the panel members' final BackCheck Responses to DrChecks	8/22/2014
	Battelle submits pdf printout of DrChecks project file	8/25/2014

## CHARGE FOR PEER REVIEW

Members of this IEPR Panel are asked to determine whether the technical approach and scientific rationale presented in the WBV Mitigation Documents are credible and whether the conclusions are valid. The Panel is asked to determine whether the technical work is adequate, competently performed, and properly documented; satisfies established quality requirements; and yields scientifically credible conclusions. The Panel is being asked to provide feedback on the economic, engineering, environmental resources, and plan formulation. The panel members are not being asked whether they would have conducted the work in a similar manner.

Specific questions for the Panel (by report section or appendix) are included in the general charge guidance, which is provided below.

### General Charge Guidance

Please answer the scientific and technical questions listed below and conduct a broad overview of the WBV Mitigation Documents. Please focus your review on the review materials assigned to your discipline/area of expertise and technical knowledge. Even though there are some sections with no

questions associated with them, that does not mean that you cannot comment on them. Please feel free to make any relevant and appropriate comment on any of the sections and appendices you were asked to review. In addition, please note the following guidance. Note that the Panel will be asked to provide an overall statement related to 2 and 3 below per USACE guidance (EC 1165-2-214; Appendix D).

1. Your response to the charge questions should not be limited to a “yes” or “no.” Please provide complete answers to fully explain your response.
2. Assess the adequacy and acceptability of the planning and environmental assumptions and projections, project evaluation data, and any biological opinions of the project study.
3. Assess the adequacy and acceptability of the environmental analyses and formulation of alternative plans used in evaluating impacts of the proposed project.
4. If appropriate, offer opinions as to whether there are sufficient analyses upon which to base a recommendation.
5. Identify, explain, and comment upon assumptions that underlie all the analyses, as well as evaluate the soundness of models, surveys, investigations, and methods.
6. Evaluate whether the interpretations of analysis and the conclusions based on analysis are reasonable.
7. Please focus the review on assumptions, data, methods, and models.

Please do not make recommendations on whether a particular alternative should be implemented, or whether you would have conducted the work in a similar manner. Also, please do not comment on or make recommendations on policy issues and decision making. Comments should be provided based on your professional judgment, not the legality of the document.

1. If desired, panel members can contact one another. However, panel members should not contact anyone who is or was involved in the project, prepared the subject documents, or was part of the USACE Agency Technical Review (ATR).
2. Please contact the Battelle Project Manager (Corey Wisneski, [wisneskic@battelle.org](mailto:wisneskic@battelle.org)) or Deputy Program Manager (Rachel Sell ([sellr@battelle.org](mailto:sellr@battelle.org))) for requests or additional information.
3. In case of media contact, notify the Battelle Program Manager, Karen Johnson-Young ([johnson-youngk@battelle.org](mailto:johnson-youngk@battelle.org)) immediately.
4. Your name will appear as one of the panel members in the peer review. Your comments will be included in the Final IEPR Report, but will remain anonymous.

Please submit your comments in electronic form to Corey Wisneski, [wisneskic@battelle.org](mailto:wisneskic@battelle.org), no later than June 26, 2014, 10 pm ET.

# IEPR of the Decision and Implementation Documents for Environmental Mitigation for West Bank and Vicinity, New Orleans, Louisiana, Hurricane and Storm Damage Risk Reduction System

## CHARGE QUESTIONS AND RELEVANT SECTIONS AS SUPPLIED BY USACE

1. Is the purpose and need for the project clearly defined?
2. Is the no action alternative clearly described and legal requirements clearly described?
3. Are the models used to assess the habitat impacts and mitigation potential of alternatives appropriate in this context?
4. Is the period of analysis appropriate for the purpose and need of this project?
5. Are the objectives and constraints reasonable and were they adequately considered during the development and evaluation of mitigation alternatives?
6. Were the methods used to develop and screen alternatives adequate and acceptable?
7. Are the alternatives adequately developed to compare the alternatives? Was the level of engineering input and data gathering sufficient to make an evaluation and decision, given the project constraints?
8. Is the use of programmatic NEPA compliance adequately explained?
9. Are the criteria used to evaluate the alternatives adequate and appropriate?
10. Was the process used to select the recommended alternative rational and was the process implemented in a reasonable manner given the project constraints?
11. Will the selected plan adequately fulfill the mitigation requirement?

## Overview Questions

12. Please identify the most critical concerns (up to five) you have with the project and/or review documents. These concerns can be (but do not need to be) new ideas or issues that have not been raised previously.
13. Please provide positive feedback on the project and/or review documents.

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