U.S. Army Corps of Engineers Report on the Implementation of Independent Peer Review

as required by Section 2034(i)(2) of the
Water Resources Development Act of 2007

November 2013

Report to the Committee on Environment and Public Works of the Senate and the Committee on Transportation and Infrastructure of the House of Representatives on the Implementation of the Independent Peer Review Requirements in Section 2034 of the Water Resources Development Act of 2007

PURPOSE

This report was prepared as the second part of the response to section 2034 of the Water Resources Development Act of 2007 (WRDA 2007), Public Law (P.L.) 110-114, enacted November 8, 2007. Section 2034 requires that project studies conducted by the U.S. Army Corps of Engineers (Corps) be subject to a peer review by an independent panel of experts. Section 2034(i) required the submission of a report on the implementation of section 2034 to Congress 3 years after enactment and an update of that report 6 years after enactment. This report has been prepared for the Committee on Environment and Public Works of the Senate, and the Committee on Transportation and Infrastructure of the House of Representatives in fulfillment of that requirement and represents an update to the report provided to the Committees on February 25, 2011.

This report covers Corps project studies across the nation and for all project purposes, excluding those project studies to be reviewed by the Louisiana Water Resources Council, as required by section 7009 of WRDA 2007. This council serves ". . . as the exclusive peer review panel for activities conducted by the Corps in the areas in the State of Louisiana declared as major disaster areas in accordance with section 401 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5170) in response to Hurricane Katrina or Rita of 2005 . . . ."

BACKGROUND

While WRDA 2007 codified a requirement for independent external peer review (IEPR) of certain Corps project studies, the Corps was already undertaking IEPR in many cases. In May 2005, Engineering Circular (EC) 1105-2-408, "Peer Review of Decision Documents," was published to implement a peer review process for planning studies. It complied with section 515 (Enclosure 1) of P.L. 106-554 (referred to as the "Information Quality Act") and the "Final Information Quality Bulletin for Peer Review" (Enclosure 2) by the Office of Management and Budget (OMB) (referred to as the "OMB Bulletin") and adopted most of the recommendations of the National Research Council's 2002 report, "Review Procedures for Water Resources Project Planning."

EC 1105-2-408 required IEPR if there ". . . is a vertical team consensus (involving district, major subordinate command and Headquarters members) that the covered subject matter (including data, use of models, assumptions and other scientific and engineering information) is novel, is controversial, is precedent setting, has significant interagency interest, or has significant economic, environmental and social effects to the nation." The Chief of Engineers could also consider directing the undertaking of an IEPR when requested by the Governor of an affected State or the head of a federal agency.

SECTION 2034

Section 2034 of WRDA 2007 (Enclosure 3) codified the requirement that the Corps undertake IEPR for certain project studies.

Mandatory External Peer Reviews. Section 2034 requires an IEPR of project studies for any project with an estimated total cost of more than $45,000,000, including mitigation costs, unless the Chief of Engineers specifically excludes it from IEPR, as discussed below. Mandatory IEPRs can also be triggered by a request from the Governor of an affected state or by the determination of the Chief that the project study is controversial due to a significant public dispute over the size, nature or effects of the project, or over the economic or environmental costs or benefits of the project.

Exclusions from Mandatory External Peer Reviews. Section 2034 includes provisions enabling the Chief of Engineers to exclude a project from IEPR if:

- For a proposed project with a total estimated cost over $45,000,000, the project study does not include an environmental impact statement, and the Chief of Engineers determines the project is not controversial; has no more than negligible adverse impacts on scarce or unique cultural, historic, or tribal resources; has no substantial adverse impacts on fish and wildlife species and their habitat prior to the implementation of mitigation measures; and has, before implementation of mitigation measures, no more than a negligible adverse impact on a species listed as endangered or threatened species under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.) or the critical habitat of such species designated under such Act;

- The project study involves only the rehabilitation or replacement of existing hydropower turbines, lock structures, or flood control gates within the same footprint and for the same purpose as an existing water resources project; is for an activity for which there is ample experience within the Corps of Engineers and industry to treat the activity as being routine; and has minimal life safety risk; or

- The project study does not include an environmental impact statement and is a project study pursued under the various authorities falling under the Corps Continuing Authorities Program.

Congressional Intent. Congressional intent on the scope of the application of IEPR was expressed in the Conference Report on WRDA 2007, which states:

> "Section 2034 permits the Chief of Engineers to exclude a very limited number of project studies from independent peer review. The managers expect that project studies that could be excluded from independent peer review are so limited in scope or impact that they would not significantly benefit from an independent peer review."

IMPLEMENTATION.

Guidance. The Corps publication of EC 1105-2-410 on August 22, 2008, built on the previous planning guidance relating to IEPR (EC 1105-2-408, discussed above) and addressed the requirements of both section 2034 and section 2035 of WRDA 2007 as well as the Information Quality Act and the OMB Bulletin. The EC required IEPR in cases where there are public safety concerns, a high level of complexity, novel or precedent-setting approaches, the project is controversial, has significant interagency interest, has a total project cost greater than $45,000,000, or has significant economic, environmental and social effects to the nation, or where requested by the Governor of an affected state.

EC 1165-2-209, published on January 31, 2010, superseded EC 1105-2-410. This new EC provided guidance on the Corps Civil Works review policy. While it included IEPR of planning studies (described as Type I IEPR), it laid out review requirements for all Civil Works efforts, including other levels of review such as district quality control, agency technical review, policy compliance review, and Safety Assurance Reviews (required by section 2035 of WRDA 2007 and described as Type II IEPR).

In June 2011, a standard operating procedure (SOP) for the conduct of IEPRs was published by the Planning Centers of Expertise (PCXs).

EC 1165-2-214, published on December 15, 2012 (Enclosure 4), is the current guidance on the Civil Works review policy and, by extension, on IEPR. This EC reflects the results of the Government Accountability Office (GAO) audit as well as lessons learned through 5 years of experience with IEPRs under section 2034.

GAO Audit. In March 2012, GAO published the results of an audit of the Corps peer review process for Civil Works project studies (GAO-12-352). The Department of Defense (DOD) generally concurred (Enclosure 5) with the GAO recommendations for executive action, but did not concur with all of the GAO findings that led to those recommendations. Whereas the GAO charge was focused exclusively on section 2034 of WRDA 2007, the development of Corps policy takes into account all applicable statutes, administrative directives and professional responsibilities. This comprehensive perspective has resulted in the Corps having a stronger overall review policy than that required by section 2034. The response also indicated that the GAO report placed too much emphasis on anecdotal remarks from field level officials who may have lacked a full understanding of the corporate vision supporting the Army Civil Works Program.

> GAO RECOMMENDATION 1: To facilitate Congressional evaluation of the 7-year trial period outlined in section 2034, the Corps should identify for each past and future peer review the specific statutory authority under which the peer review was conducted and the criteria triggering peer review under the Corps civil works review policy.

The Department of Defense (DOD) concurred with Recommendation 1 and agreed to develop and implement an approach to list the specific statutory authorities under which the peer review was conducted and the criteria triggering the IEPR under Corps policy for past and future project studies that undergo independent external peer review.

> GAO RECOMMENDATION 2: To better reflect section 2034 and provide more effective stewardship of public resources and ensure efficient and effective operations, the Corps should revise the criteria in the Corps process for conducting peer review to focus on larger, more complex and controversial projects, to encourage peer review to occur earlier in the study process, and to include exclusions to peer review that align with section 2034.

The DOD partially concurred with Recommendation 2. The Corps, in general, agreed that IEPR should be applied to studies that will significantly benefit from independent external peer review. The Corps continues to reassess its criteria and how the criteria are applied in determining which studies should undergo IEPR.

The Corps also agreed that initiating reviews early in the process is advantageous, with the caveat that early involvement of review panels must be balanced with having sufficient data and analysis available for review. The Corps also noted that, in implementing external peer review policy in 2005, many studies that were already well-along in their process faced new requirements to conduct IEPR. This resulted in a disproportionate number of studies in the GAO audit having initiated IEPR relatively late in the study process. The Corps Civil Works Transformation, an initiative undertaken by the Chief of Engineers in April 2012, has led to a major overhaul of its planning processes. Transformation goals include shortening the planning study process and better aligning product reviews for greater overall effectiveness.

Regarding exclusions to peer review, the Corps did not concur with the GAO findings that the Corps process does not include the flexibility provided in section 2034, and that some studies that have undergone peer review did not warrant it. The Corps stands by all of the decisions made for granting or denying IEPR exclusions to date. Nonetheless, as noted above, the Corps continues to reassess its criteria and how the criteria are applied in determining which studies should undergo IEPR.

Finally, in addition to the considerations above, refinements to the Civil Works Review Policy must be developed to reflect the emphases of all the Corps pertinent statutes and Administration priorities.

> GAO RECOMMENDATION 3: To better reflect section 2034 and provide more effective stewardship of public resources and ensure efficient and effective operations, the Corps should develop a documented process to ensure that contractors are independent and free from conflicts of interest on a project specific basis.

The DOD concurred with Recommendation 3 and, although the process already had many safeguards in place, agreed to develop and implement a more transparent and

better documented process for ensuring that contractors are independent and free from conflicts of interest on a project specific basis, following protocols that OMB and the National Academies of Science have established for addressing independence and conflict of interest for individual panelists.

Contracting. Throughout 2008 and into 2009 project studies schedules were moderately impacted by this new activity while organizing resources and steps needed to meet contracting requirements in accordance to the law. Now, many IEPRs are being performed concurrently with the public review of the draft reports. The Corps now has also established an efficient contracting mechanism to procure nonprofit 501(c)(3) organizations, that meets the requirement of section 2034(l)(3), and is using the National Academy of Science's guidelines for selecting reviewers. In 2010, two Indefinite Delivery/Indefinite Quantity contracts were awarded to two entities, Battelle Memorial Institute and Noblis Inc, meeting the requirements in section 2034(l)(3) for an "Eligible Organization."

Review Conduct and Results. The management of each IEPR is the responsibility of one of the six PCXs who ensure the panels are established in accordance with requirements pursuant to section 2034 of WRDA 2007, the Information Quality Act, the OMB Bulletin, and other Corps policy considerations. The six PCXs include Coastal Storm Risk Management (CSRM), Deep Draft Navigation (DDN), Ecosystem Restoration (ECO), Flood Risk Management (FRM), Inland Navigation (IN), and Water Management and Reallocation Studies (WMRS).

As of July 31, 2013, there have been 68 IEPRs completed at a cost of approximately $11,873,000. Of the 68 project studies evaluated, all would have undergone IEPR based on the Corps implementation of the requirements of the Information Quality Act and the OMB Bulletin; 24 would have been required to undergo IEPR under section 2034 even if the Information Quality Act and OMB Bulletin were not applied; and 27 would have undergone IEPR as a result of section 2035. Enclosure 6 lists the IEPRs completed to date, along with additional report summary information.

IEPR reports covering the 68 project studies have produced 1155 total comments, with 353 considered high significance, 569 medium significance, and 233 low significance. The mean number of comments received per project study was 18 and the median number of comments was 16. Individual project studies received a high of 40 comments and a low of 6 comments. Figure 1 shows the project by project breakout of the significance level of review comments received. Table 1 shows the number of comments by project, grouped and subtotaled by each managing PCX.

The majority of the IEPR comments have been consistent with internal Corps policy review comments. To date, only one significant change to any project study recommended plan has resulted from IEPR. A review comment on the Olmstead Lock and Dam exposed a flaw in the treatment of contingencies within the cost estimate. Correcting the cost estimate revealed a significant underestimation of the costs and

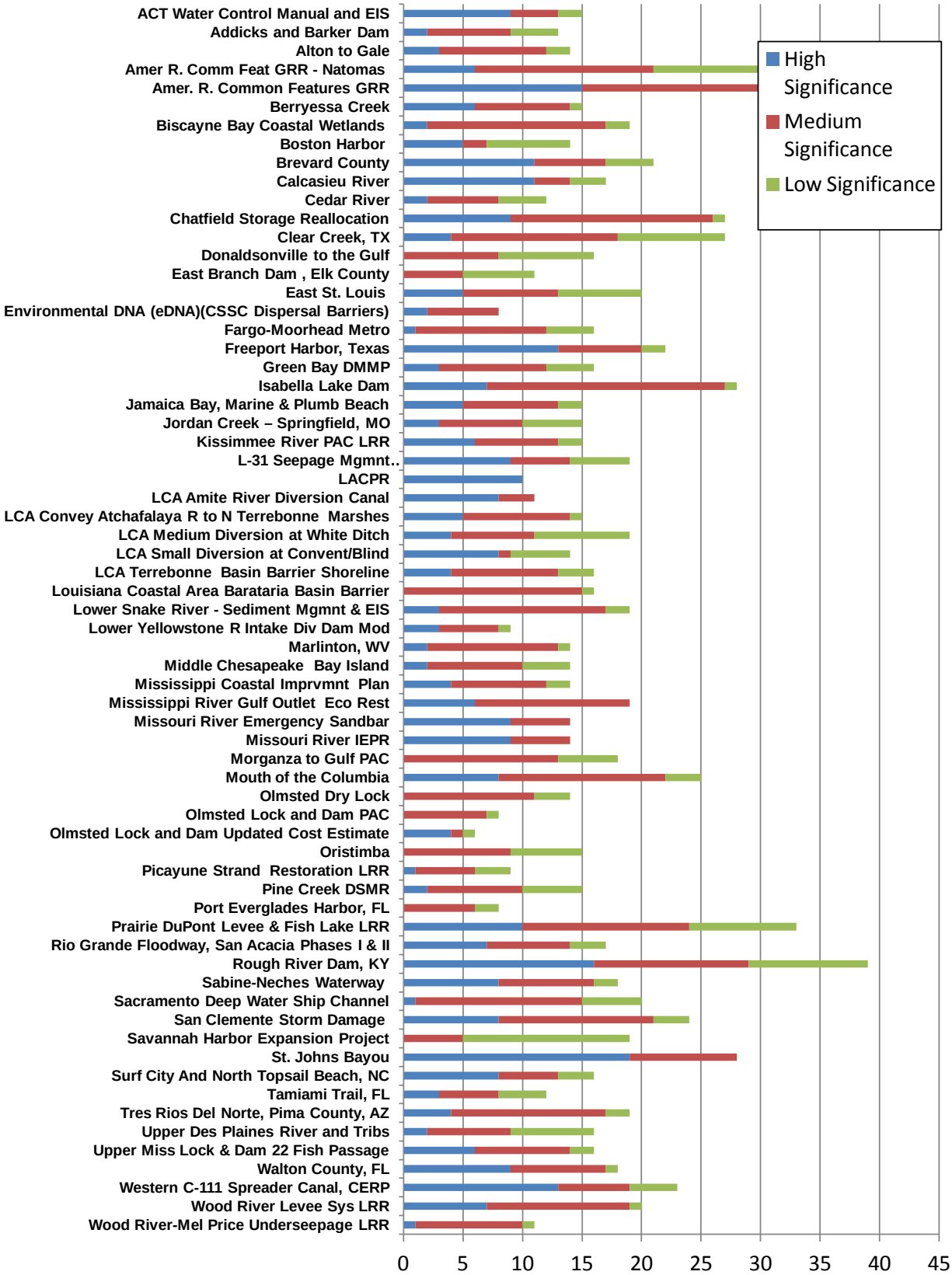

Figure 1. Project Study Comments.

necessitated revising the report supporting a reauthorization request required under section 902 of WRDA 1986, as amended. Overall, most review comments have focused on the need for improved documentation (e.g., assumptions, methods, and rationale) and additional or more rigorous analyses. Other issues frequently encountered included readability (e.g., clarity of figures, cross referencing to appendices, redundancy), concerns with model application, and comprehensiveness of adaptive management and monitoring plans.

Completed review reports, along with Corps responses, are available to the public at: http:/www.usace.army.mil/Missions/CivilWorks/ProjectPlanning/CompletedPeerReviewReports.aspx

CONCLUSIONS

The Corps review processes are essential to ensuring project safety and quality of the products the Corps provides to the American people. The Corps takes this responsibility seriously and has endeavored to implement section 2034 of WRDA 2007 in accordance with the spirit and intent of the statute and the legislative history, while also remaining responsive to all applicable statutes, administrative directives, and professional responsibilities. The Corps has implemented section 2034 in a manner that has allowed it to be flexible and responsive to internal audits as well as external audits, including the 2012 GAO audit.

The 68 IEPRs, conducted at a cost of about $12,000,000, have generally verified the Corps study process and procedures, while highlighting the need for improving our communication of assumptions and decisions made throughout the study process. The one instance where a significant change (in the estimated project cost) resulted from IEPR came on Olmstead Lock and Dam. This project's scope and cost would have driven the Corps to conduct IEPR even in the absence of section 2034. As section 2034 sunsets in 2014, IEPRs will continue for Corps projects, although it is possible the Corps procedures may change in order to make them more cost efficient. The Corps will continue to make the reports and responses available to the public and make the process as transparent as practicable.

Table 1. Number of Comments by Project.

CSRM	# CMTS
Morganza to the Gulf	18
Donaldsonville to the Gulf	16
Brevard County	21
LaCPR	10
MCIP	14
San Clemente	24
Surf City /North Topsail Beach	16
Walton County, FL	18
TOTAL CSRM	**137**

DDN	# CMTS
Boston Harbor (45-Foot Channel), MA	14
Calcasieu River and Pass, LA	17
Freeport Harbor, Texas, Channel Improvement	22
Mouth of the Columbia	25
Port Everglades Harbor, FL	8
Sabine-Neches Waterway Channel Improvement, TX	18
Sacramento Deep Water Ship Channel	20
Savannah Harbor Expansion Project	19
TOTAL DDN	**143**

ECO	# CMTS
Biscayne Bay	19
Environmental DNA (eDNA), Dispersal Barriers Efficacy Study	8
Houma Navigation Canal	Incl *
Jamaica Bay, Marine & Plumb Beach, NY	15
Kissimmee River PAC	15
L-31 Seepage Management	19
LCA Amite R Diversion Canal	11
LCA Convey Atchafalaya R to N Terrebonne	15*
LCA Medium Diversion at White Ditch	19
LCA Small Diversion at Convent/Blind	14
LCA Terrebonne Basin Barrier	16
Louisiana Coastal Area Barataria Basin	16
Lower Yellowstone R Intake Div Dam Mod	9
Middle Chesapeake Bay	14
Mississippi River Gulf Outlet	19
Missouri River Emergent Sandbar Habitat	14
Missouri River IEPR	14
Picayune Strand	9
Tamiami Trail, FL	12
Tres Rios Del Norte	19
Upper Miss L&D 22 Fish Passage	16
Western C-111 Spreader Canal, CERP	23
TOTAL ECO	**316**

FRM	# CMTS
Addicks and Barker Dam Safety	13
Alton to Gale	14
Amer R Common Feat - Natomas	35
Berryessa Creek	15
Cedar River	12
Clear Creek, TX	27
Amer R Common Feat GRR	40
East St. Louis	20
Fargo-Moorhead	16
Isabella Lake Dam	28
Jordan Creek – Springfield, Missouri	15
Marlinton, WV	14
Oristimba Creek	15
Pine Creek DSMR	15
Prairie DuPont Levee and Fish Lake	33
Rio Grande San Acacia Phase I	Incl **
Rio Grande San Acacia Phase II	17**
Rough River Dam, KY	39
St. Johns - New Madrid	28
Upper Des Plaines R & Tribs	16
Wood River Levee System	20
Wood River-Mel Price	11
East Branch Dam , Elk County	11
TOTAL FRM	**454**

IN	# CMTS
Green Bay DMMP	16
Lower Snake River	19
Olmsted Dry Lock	14
Olmsted Lock and Dam PAC	8
Olmsted L&D Cost Estimate	6
TOTAL IN	**63**

WMRS	# CMTS
ACT Water Control Manual and EIS	15
Chatfield Storage Reallocation Study	27
TOTAL WMRS	**42**

LEGEND:

CERP – Comprehensive Everglades Restoration Plan

DMMP – Dredge Material Management Plan

GRR – General Reevaluation Report

LaCPR- Louisiana Coastal Protection and Restoration

LCA - Louisiana Coastal Area

MCIP – Mississippi Coastal Improvements Plan

PAC – Post Authorization Change Report