

TESTIMONY OF
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ON BEHALF OF
THE AMERICAN SOCIETY OF CIVIL ENGINEERS
BEFORE THE
ENVIRONMENT AND PUBLIC WORKS COMMITTEE
UNITED STATES SENATE
FOR A LEGISLATIVE HEARING ON
THE WATER RESOURCES DEVELOPMENT ACT OF 2012
NOVEMBER 15, 2012

Madam Chairwoman, Senator Inhofe, and Members of the Committee:

It is an honor for me to appear before this committee on behalf of the American Society of Civil Engineers (ASCE)¹ to discuss the importance of water resources projects to our nation's overall economic health.

ASCE commends the Environment and Public Works Committee for holding a hearing today on the Water Resources Development Act (WRDA) of 2012 and for moving forward in the legislative process. The Society is pleased to present to the Committee our views on investing in the nation's water resources infrastructure and the impact that this infrastructure has on the nation's ability to compete in a global economy. A Water Resources Development Act that fosters economic growth and job creation through policies that strengthen U.S. infrastructure will allow the nation to remain competitive in the Twenty-First Century.

THE IMPACT OF UNDER-INVESTING IN OUR NATION'S PORTS AND INLAND WATERWAYS

Aging infrastructure for marine ports and inland waterways threatens more than 1 million U.S. jobs according to ASCE's latest *Failure to Act*² economic study on the nation's ports released on September 13, 2012. Between now and 2020, investment needs in the nation's marine ports and inland waterways sector total \$30 billion, while planned expenditures are about \$14 billion, leaving a total investment gap of nearly \$16 billion. This investment gap is for what would be considered the federal responsibility. The ASCE report does not address the landside connections or the "inside the fence" infrastructure that is the responsibility of the port authority.

The nation's marine ports and inland waterways are critical links that make international commerce possible. However, with the scheduled expansion of the Panama Canal by 2015, the average size of container ships is likely to increase significantly, affecting the operations at most of the major U.S. ports that handle containerized cargo and requiring both sectors to modernize. Needed investment in marine ports includes harbor and channel dredging, while inland waterways require new or rehabilitated lock and dam facilities.

The United States has 300 commercial ports, 12,000 miles of inland and intra-coastal waterways and about 240 lock chambers, which carry more than 70 percent of U.S. imports by tonnage and just over half of our imports by value. To remain competitive on a global scale, U.S. marine ports and inland waterways will require investment in the coming decades beyond the \$14.4 billion currently expected. ASCE reports that with an additional investment of \$15.8 billion between now and 2020, the U.S. can eliminate this drag on economic growth and protect:

- \$270 billion in U.S. exports.
- \$697 billion in GDP.
- 738,000 jobs in 2020.
- \$872 billion in personal income, or \$770 per year for households.

¹ ASCE was founded in 1852 and is the country's oldest national civil engineering organization. It represents 141,000 civil engineers individually in private practice, government, industry, and academia who are dedicated to the advancement of the science and profession of civil engineering. ASCE is a non-profit educational and professional society organized under Part 1.501(c) (3) of the Internal Revenue Code.

² www.asce.org/failuretoact

Unless America's infrastructure investment gaps are filled, transporting goods will become costlier, prices will rise, and the United States will become less competitive in the global market. As a result, employment, personal income, and GDP will all fall due to inaction.

We now discuss the specific provisions of the Committee draft bill in the order of importance that we have assigned to the reforms we believe are necessary to Corps' Civil Works program approach to water resources projects. The foremost among them is a national levee safety program.

A. LEVEE SAFETY (TITLE VI)

SECTION 6003—Definitions

Currently, there is no national safety program for federal or state levees. Many privately built levees are deeded to local governments or associations who do not maintain them or even recognize the risks. There is no dependable catalog of the location, ownership, condition, or hazard potential of most levees in the United States. Flooding from Hurricane Katrina, which devastated the city of New Orleans in August 2005, demonstrated the need for consistent, up-to-date standards for levees based upon reliable engineering data on their location, function, and condition.

As a matter of policy, ASCE supports the enactment of federal and state legislation and regulations to establish minimum nationwide requirements to protect the health and welfare of citizens from the catastrophic effects of levee failures. The national levee safety program should be modeled on the successful National Dam Safety Program. The federal government must accept the responsibility for the safety of all federally funded and regulated levees.

Title VI of the draft bill would establish an incomplete National Levee Safety Program. ASCE believes title VI needs to be revised to improve the vigor of the proposed levee safety program.

It appears that section 6003(7) (C) (IV) (I), the bill would exclude from the definition of a levee any structure "that is not part of a federal flood damage reduction system." At present the U.S. Army Corps of Engineers (USACE) has specific authorities for approximately 2,000 levees, or 14,000 miles nationwide.³

"There is still a large universe of private and other non-USACE levees that have not been inventoried or inspected. The National Committee on Levee Safety (NCLS) [sic] has estimated that there may be more than 100,000 miles of levees nationwide, many of which have not been inspected or inventoried. The precise size of this 'universe of levees,' where the levees are located, their condition, or the consequences of poor performance is currently unknown."⁴

Section 6003 may omit the vast majority of levees in the United States from the levee safety program by defining the majority of all levees out of existence. Eliminating a large portion of the nation's levees would be unacceptable to ASCE, and we would like further clarification if this is in fact the case. While we agree that the federal government must accept responsibility only for federally built levees, we strongly believe that all levees in the United States—federal, state, and local—need to be within the ambit of a national levee safety program. Such a program needs to address the physical condition of every

³ U.S. Army Corps of Engineers, Levee Myths and Facts, <http://www.usace.army.mil/Missions/CivilWorks/LeveeSafetyProgram/LeveeMythsandFacts.aspx>

⁴ Ibid.

known mile of federal, state, and local levees to be truly effective. Therefore section 6003(7) (C) (iv) (I) should be amended to include all levees in the definition of a levee.

We concur, however, in the provisions (section 6003(C) (iv) (IV)-(V)) that limit the definition of a levee to areas with a population of fewer than 50 individuals and 1,000 acres.

Federal law should require the federal and state governments to conduct mandatory safety programs for all levees and complete the national inventory of levees begun by the USACE.⁵ State governments should be encouraged to enact legislation under a national safety program requirement to establish an appropriate entity to undertake a program of levee safety for non-federal levees. The National Flood Insurance Program should map all areas potentially flooded by a levee breach and identify these as special flood areas to better communicate risks and encourage affected property owners to seek appropriate protection.

The nation must use all the tools available to reduce damages from hurricanes and major storms. This means the use of structural methods, such as levees, floodwalls, and dams, but also non-structural approaches, such as flood-resistant design, voluntary relocation of homes and businesses from flood-prone areas, the revitalization of wetlands for storage, and the use of natural barriers to storm surges.

SECTION 6004—National Levee Safety Program

Section 6004(c) (1) would require the Secretary of the Army to establish “a set of voluntary, comprehensive, national levee safety guidelines.” We concur with the Committee on Levee Safety⁶ that that “states, not the federal government, should have primary authority for implementation of a National Levee Safety Program within their borders, and a National Levee Safety Program will be more effective if states tailor their levee safety programs to meet local needs and allow for regional and state variations, while meeting national standards and objectives.”⁷

But while states are able to organize and oversee their own levee safety programs under state legal authorities, WRDA should enact mandatory minimum national guidelines and safeguards for the states to follow.

An additional provision that would be beneficial for a newly created Levee Safety Program would be the inclusion of maintenance of effort clause for the states. The National Dam Safety Program has benefited from such a clause, because it has held states accountable for continuing to appropriate funding for their state dam safety program. One success of the clause for the Dam Safety Program was in Michigan when the governor wanted to zero out funding for the dam safety program. Once Michigan was notified that federal funding was contingent on the state maintaining funding for the program the state appropriated funds back to dam safety. Levees could benefit from the same funding assurance. While ASCE commends the Committee for taking steps to create a National Levee Safety Program, states will need a strong federal partner as programs develop.

⁵ <http://nld.usace.army.mil/egis/f?p=471:1:>

⁶ Often erroneously referred to as the “National Committee on Levee Safety.”

⁷ Recommendations for a National Levee Safety Program, http://www.leveesafety.org/rec_statelevee.cfm

B. DAM SAFETY (TITLE IX)

ASCE commends the Committee for adding the Dam Safety Act of 2012 as a separate title in WRDA 2012. The bipartisan language, originally introduced by Senators Akaka, Boozman, Whitehouse, and Crapo, would reauthorize the National Dam Safety Program through 2016 at \$13.9 million annually, while providing grants to improve state dam safety programs through training, technical assistance, public awareness, inspection, and research.

Only about 11 percent of the nation's dams are owned, operated, or regulated by the federal government. State governments are responsible for ensuring the safety of most dams. Unfortunately, many state programs are underfunded and understaffed. This legislation recognizes that the federal government plays a vital role in maintaining and inspecting dams wherever they may be located. Under FEMA's leadership, the National Dam Safety Program is dedicated to protecting the lives of American citizens and their property from the risks associated with the development, operation, and maintenance of America's dams.

C. HARBOR MAINTENANCE (TITLE VIII)

The dredging of the nation's ports and harbors has suffered from years of under investment in a system that is critical to America's ability to compete in the global marketplace. For Fiscal Year 2013 the administration has requested \$839 million be appropriated from the Harbor Maintenance Trust Fund (HMTF)—only 50 percent of total estimated revenues. Total revenues are now estimated at \$1.659 billion for FY 2013. The FY 2013 budget request does not come close to meeting the requirements of the nation's ports and harbors, which have an annual need for maintenance dredging of between \$1.3 billion and \$1.6 billion, according to the Army Corps of Engineers.

This trend toward reduced investments in our ports and harbors has led to ever greater balances in the HMTF, and the unexpended balance in the Trust Fund is growing, with a bookkeeping balance of more than \$6 billion by September 30, 2013, the Office of Management and Budget reports.

Therefore, ASCE is pleased to see that the Committee included language that will restore trust to the Harbor Maintenance Trust Fund.

SECTION 8002 – Funding for Harbor Maintenance Programs

ASCE applauds Section 8002(b) (1) stating that “the total budget resources for a fiscal year shall be equal to the level of receipts for harbor maintenance for that fiscal year, which amounts shall be used only for harbor maintenance.” By providing a provision requiring the total of all appropriations from the HMTF each fiscal year be equal to all revenues received by the HMTF each year the nation can work toward ensuring that US ports are prepared to meet modern shipping needs.

Paragraph Section 8002(b)(2) is also a critical inclusion since it will guarantee that appropriations are not taken from other Corps of Engineers programs due to the potential increased funding for the HMTF.

SECTION 8003 – Harbor Maintenance and Operations

Finally, ASCE supports the deepening and widening of ship channels, as necessary, to accommodate new, larger ships and the continued maintenance dredging of ship channels for the efficient handling of maritime commerce. ASCE also supports programs that limit erosion and sedimentation in ports, harbors and waterways.

D. INNOVATIVE FINANCING PILOT PROJECTS (TITLE X)

ASCE has been an advocate for a Water Infrastructure Finance Innovations Authority (WIFIA), modeled after the successful Transportation Infrastructure Finance and Innovation Act, for years and is happy to see such language included in WRDA 2012. A WIFIA account that would access funds from the U.S. Treasury at Treasury rates and use those funds to support loans and other credit mechanisms for water projects provides states and public and private entities with another alternative for funding our growing water infrastructure needs.

Providing \$50 million annually for fiscal years 2013 through 2017 for water resources and wastewater projects, which could be leveraged for perhaps \$500 million to \$1 billion annually, would allow for major improvements to the nation's water infrastructure. Additionally, the inclusion of a report to Congress after two years is a positive way to reassess the program and see if it could be updated in a way that would better benefit projects.

E. INLAND WATERWAYS (TITLE VII)

SECTION 7003 – Project Delivery Process Reforms

According to the Inland Waterways Users Board, large project cost overruns and delays in project schedules on the waterways have drawn down the Inland Waterways Trust Fund balance. Section 7003 is taking steps in the right direction by working to improve the “likelihood of on-time and on-budget completion of qualifying projects.” Developing pilot projects which could evaluate more efficient processes or procedures for the benefit of the nation's inland waterways has the ability to gather information on faster project completion.

ASCE, however, would also argue that project completion delays also result from a federal budgeting and appropriations model that provides funding in annual and often-insufficient increments rather than a more reliable multi-year funding mechanism that would provide the certainty needed to more efficiently contract and build these capital projects. Creating a system which would allow water resources projects not to be reliant on the often unreliable annual appropriations process could cut some of the red tape standing in the way of inland waterways projects.

Next, ASCE approves of language in Section 7003(d)(1), which calls on the Inland Waterways User Board to “develop and submit to Congress a report describing, a 20-year program for making capital improvements on the inland and intracoastal waterways, based on the application of objective, national, project selection prioritization criteria.” Creating a long term priority list for the inland waterways projects will allow for a systematic approach for making the necessary repairs.

SECTION 7005 – Efficiency of Revenue Collection

ASCE is disappointed to see that WRDA 2012 will not directly address the declining revenues in the trust fund. While assessing the efficiency of collecting the current fuel tax and deciding whether alternative methods of collection would result in increased revenue does hint at a problem in current Inland Waterways Trust Fund revenues, overall it essentially punts making a decision on a new revenue raiser for two years.

The tax rate for the trust fund has been 20 cents per gallon since 1995. ASCE believes that an increase in the waterways user fee is long overdue, and we concur in the recommendation from the Inland Waterways User Board that the current fee be increased to between six and nine cents a gallon. ASCE also stresses that any increase in the Inland Waterways User fee includes a provision to index that fee to

the consumer price index (CPI) and be adjusted every two years. We further recommend that any diesel fuel tax revenues received by the IWTF be “firewalled” to establish discretionary spending limits and to reserve the IWTF revenues exclusively for the reconstruction of the system’s aging infrastructure.

F. WATER RESOURCES POLICY REFORMS (TITLE II)

SECTION 2022 – Post Disaster Watershed Assessments

ASCE strongly supports Section 2022 on post disaster watershed assessment. America’s coastal states—those states bordering on the Atlantic, Pacific, or Arctic Ocean, the Gulf of Mexico, Long Island Sound, and one or more of the Great Lakes—contain vital ecological and economic resources. We support the provision that would allow for assessments identifying future flood risk reduction projects or to rehabilitate damaged infrastructure that can reduce future risks, will allow for stronger, more resilient, coastlines.

SECTION 2003—Independent Peer Review

In 2007, Congress enacted the most recent Water Resources Development Act. Section 2034 of that Act provided that project studies must be subject to peer review by an independent panel of experts. Section 2003 of the draft bill makes certain changes to section 2034 of WRDA 2007. The amendments would require the Corps’ to publish (1) its reasons for not requiring an independent peer review and (2) the completed project reviews themselves.

The proposed legislation ignores significant weaknesses in the current law. The 2007 Act established two categories for independent peer review—project studies for which independent peer review is mandatory, and project studies for which such review is discretionary. It also limited the mandatory review of projects having an estimated total cost of more than \$45 million, project studies for which the governor of an affected state requests an independent peer review, and project studies that the Chief of Engineers determined are controversial. In determining whether a project is controversial, the Chief of Engineers must consider whether there is significant public dispute as to the size, nature, or effects of the proposed project, and whether there is significant public dispute as to the economic or environmental costs or benefits of the proposed project.

ASCE objected to the provisions that allowed the Corps to determine that certain project studies are exempt from an independent peer review and to the requirement that limits peer reviews to projects costing at least \$45 million. In January 2010, the Corps issued guidelines to implement the outside peer review requirement. The guidelines followed the law and limited peer review to select projects. In addition, the guidelines continue the Corps practice of subjecting all projects to a Corps-only review called an “agency internal review.”

All peer reviews of civil works projects must be independent from the USACE. ASCE believes that independent peer reviews should be conducted on every water resources project built by Corps of Engineers in which performance is critical to the public health, safety and welfare; the reliability of performance under emergency conditions is critical; innovative materials or techniques are used; for projects lacking redundancy in the design; or for projects that have unique construction sequencing or a short or overlapping design and construction schedule.

The Committee should amend section 2003 of the draft bill to repeal the cost limitation in section 2034 and to require that every water resources project carried out by the Corps undergo an independent peer review. Moreover, the bill should prohibit all use of the “agency internal review” procedure now in Corps policy.

SECTION 2016 – Project Acceleration

Project delays can significantly increase the cost of water resources projects. Continuing the 3-3-3 process at the Corps of Engineers will be an effective way to continue to move projects ahead in an 18 month period.

SECTION 2023 - Levee Certification

Section 2023 of the draft bill would give the Corps of Engineers the discretion to carry out an evaluation of non-federal levee systems and “certify” that these systems meet the prescribed designs for those levees. The certification requirements would be carried out under the Federal Emergency Management Agency (FEMA) program in 44 C.F.R. § 65.10.

ASCE has recommended that FEMA amend its National Flood Insurance Program (NFIP) regulation at 44 C.F.R. § 65.10 that requires a Professional Engineer (P.E.) to certify a levee’s compliance with its design to require only that a P.E. make a “compliance determination” in the development of NFIP insurance rates.

FEMA ought to adopt a hazard-ranking system for NFIP rating maps that is based on either the maximum flood that will likely be experienced in an area (the Probable Maximum Flood), or a locally established plan for development, land use, building codes, emergency preparedness (especially warning, evacuation, and risk communication), as well as an efficient and orderly system of indemnification for the inevitable losses when levees fail or are overtopped.

In order for FEMA to accredit a levee on its NFIP maps, a Professional Engineer must certify that the system complies with all the requirements established by FEMA at 44 CFR 65.10 or a federal agency with levee design and construction qualifications may certify that the levee has been adequately designed and constructed to provide protection against the base flood elevation.

The FEMA rule mandating certification of non-federal levees requires a Professional Engineer to certify a document that inadvertently might mislead the public with respect to public safety and place the engineer in serious ethical and legal jeopardy is contrary to the ASCE Canon of Ethics and good public policy.

The Committee should amend section 2023 of the draft bill to change the reference to “levee certification” to “compliance determination.” This will avoid giving the false impression that a Professional Engineer has guaranteed that the levee will not fail—a guarantee no engineer can ethically render as such a guarantee is beyond the engineer’s ability to predict the future.

A fundamental canon of the Code of Ethics of ASCE declares that engineers shall hold paramount the safety, health, and welfare of the public. The solution to levee safety and flood-risk reduction must be developed within the complex context of community development, land use, building codes, emergency preparedness (especially warning, evacuation, and risk communication). Levee accreditation under the FEMA regulation is a technical finding for the NFIP that is not in any way a representation that any accredited levee will provide for the safety, health, and welfare of the public.

CONCLUSION

In conclusion, ASCE applauds the Senate Environment and Public Works Committee for taking strides to address our nation's aging water resources. Deferring water resource projects creates costs that reverberate throughout our economy, causing exports and GDP to fall, threatening U.S. jobs, causing a drop in personal income, and putting those who live behind a dam or levee at increased risk. Including the creation of a national levee safety program, the reauthorization of the national dam safety program and correcting spending shortfalls out of the Harbor Maintenance Trust Fund are critical elements to a final WRDA package. ASCE looks forward to working with the Senate Environment and Public Works Committee as you move forward on this legislation.

Thank you, Senator Boxer. This concludes my testimony. I would be pleased to answer any questions.