As of 9/20/2020

**Dam Safety, Indiana**

**Indiana Dams - Special Studies**

**Current Phase:**

Study

**Project Location:** Brookville Lake Dam, Cagles Mill Lake Dam, CM Harden Lake Dam, Mississinewa Lake Dam, Monroe Lake Dam, Patoka Lake Dam, J.E. Roush Lake Dam & Markle Levee, and Salamonie Lake Dam (See below for site specific information)

**Study and Program Information:**

During normal operations, these dams are routinely inspected daily, weekly, and monthly by USACE operations staff and annually by Louisville District dam safety staff. The dams also receive a comprehensive inspection every five years by a multi-discipline team of Louisville District engineers.

The USACE has instituted a "risk informed" dam safety program. The initial step was conducting a Screening Portfolio Risk Assessment (SPRA). A team of engineers conducted a screening level review of the dam’s construction, performance history, and instrumentation to evaluate current dam behavior, as well as economic consequences and the population at risk of potential dam failure. After the initial screening, the risk is re-evaluated every ten years as part of a routine Periodic Assessment (PA) in conjunction with the 5 year comprehensive site inspection. The findings are reviewed by the Dam Senior Oversight Group (DSOG) and a Dam Safety Action Classification (DSAC) rating is assigned based upon confirmed or unconfirmed dam safety issues and the combination of life or economic consequences should failure occur. The DSAC ratings are used to prioritize further study to confirm the

**Summarized Financial Data:**

Dam Safety Special Studies are part of a national program with funds distributed by the Corps of Engineers (USACE) Headquarters Dam Safety Office on a priority basis.

Plan is established while further investigations are conducted and/or remedial actions are implemented as necessary.

The first study phase is an Issue Evaluation Study (IES) which confirms the dam safety issue. Should more information be necessary to confirm the issues, an IES Phase II study may be undertaken to gather the necessary data to reduce the uncertainty. The results of these studies are presented to the USACE Risk Management Center (RMC) and the DSOG. The results may indicate the need to progress to the next phase of study or reduce the DSAC rating for the dam. If the case is made that the dam is in need of remedial construction then the project moves to the Dam Safety Modification Report (DSMR). The DSMR report analyzes potential remedial construction elements to determine the best “fix” to reduce the overall project risk. These studies and remedial construction are prioritized based upon the relative risk estimates at each stage to best make use of the available funding and resources.

**Congressional Interests:**

SEN Mike Braun
SEN Todd Young
**Individual Project Status:**

**Brookville Dam, IN**

* **SPRA (Screening for Portfolio Risk Analysis):** 2007  
  * **DSAC (Dam Safety Action Classification) Rating:** Class 4  
  * **IRRMP (Interim Risk Reduction Measures Plan):** N/A since it is DSAC 4.  
  * **IES (Issue Evaluation Study):** The findings of the Phase 2 IES risk analysis were presented to the Risk Management Center (RMC) in November 2011 and to the Dam Senior Oversight Group (DSOG) in February 2012. The RMC and DSOG agreed with the report recommendation that the project be reclassified to a DSAC 4 based on the results of the risk analysis.  
  * **FY2021 Planned Activities:** Routine O&M surveillance and monitoring program.

**Cagles Mill Dam, IN**

* **SPRA (Screening for Portfolio Risk Analysis):** 2007  
  * **DSAC (Dam Safety Action Classification) Rating:** Class 4  
  * **IRRMP (Interim Risk Reduction Measures Plan):** N/A since it is DSAC 4  
  * **IES (Issue Evaluation Study):** Not required since it is a DSAC 4  
  * **FY2021 Planned Activities:** Routine O&M surveillance and monitoring program.

**Cecil M Harden Dam, IN**

* **SPRA (Screening for Portfolio Risk Analysis):** 2009  
  * **DSAC (Dam Safety Action Classification) Rating:** Class 3  
  * **IRRMP (Interim Risk Reduction Measures Plan):** Completed 30 June 2010  
  * **IES (Issue Evaluation Study):** The findings of the IES risk analysis were presented to the Risk Management Center (RMC) in September 2013 and to the Dam Senior Oversight Group (DSOG) in October 2013. The RMC and DSOG agreed with the report recommendation that the project be reclassified from a DSAC 2 to a DSAC 3 based on the results of the risk analysis. Remedial construction is not warranted at this time. This structure has been reprioritized in the risk study queue.  
  * **FY2021 Planned Activities:** Routine O&M surveillance and monitoring program.

**Mississinewa Dam, IN (See detailed Fact Sheet for additional information)**

* **SPRA (Screening for Portfolio Risk Analysis):** 2009  
  * **DSAC (Dam Safety Action Classification) Rating:** Class 2  
  * **IRRMP (Interim Risk Reduction Measures Plan):** Completed 27 July 2010  
  * **IES (Issue Evaluation Study):** As a result of the 2014 Periodic Assessment, the dam was rated as a DSAC 2. The IES Phase 2 was initiated in August 2015 and determined that Dam Safety Modification Report (DSMR) would not be required.  
  * **FY2020 Activities:** The Final SQRA Report was completed and approved. DSOG agreed with the PDT and risk cadre to reclassify from a DSAC 2 to a DSAC 4. There is no further work required.  
  * **FY2021 Planned Activities:** Routine O&M surveillance and monitoring program.
As of 9/20/2020

**Monroe Dam, IN**

* SPRA (Screening for Portfolio Risk Analysis): 2006
* DSAC (Dam Safety Action Classification) Rating: Class 5
* IRRMP (Interim Risk Reduction Measures Plan): N/A since it is DSAC 5
* IES (Issue Evaluation Study): Not required since it is a DSAC 5
* Note: The DSAC rating was revised to a 5 in 2017 based on the results from a Periodic Assessment.
* FY2021 Planned Activities: Routine O&M surveillance and monitoring program.

**Patoka Dam, IN**

* SPRA (Screening for Portfolio Risk Analysis): 2008
* DSAC (Dam Safety Action Classification) Rating: Class 4
* IRRMP (Interim Risk Reduction Measures Plan): N/A since it is DSAC 4
* IES (Issue Evaluation Study): Not required since it is a DSAC 4
* Note: The previous Phase 2 IES was initiated in February 2014. The IES terminated at an early stage and a Semi Quantitative Risk Assessment (SQRA) was completed in August 2015. The DSAC rating was changed from a DSAC 2 to a DSAC 4. Remedial construction is not warranted at this time. This structure has been reprioritized in the risk study queue.
* FY2021 Planned Activities: Routine O&M surveillance and monitoring program.

**J.E. Roush Dam, IN**

* SPRA (Screening for Portfolio Risk Analysis): 2005
* DSAC (Dam Safety Action Classification) Rating: Class 3
* IRRMP (Interim Risk Reduction Measures Plan): Completed 6 November 2007
* IES (Issue Evaluation Study): The findings of the Dam Safety Modification Report (DSMR) were presented to the Risk Management Center (RMC) in March 2010 and the Dam Senior Oversight Group (DSOG) in June 2010. Based on the reviews, the study was converted from the existing DSMR to a Phase 2 Issue Evaluation Study (IES).
* The findings of the Phase 2 IES risk analysis were presented to the RMC in March 2013 and to the DSOG in April 2013. The RMC and DSOG agreed with the report recommendation that the project be reclassified to a DSAC 3 based on the results of the risk analysis. The 2019 routine Periodic Assessment maintained the DSAC 3 rating and recommended low cost O&M remedial construction of seepage berms, that when completed, would further reduce the risk to DSAC 4.
* FY2021 Planned Activities: Routine O&M surveillance and monitoring program.

**Salamonie Dam, IN**

* SPRA (Screening for Portfolio Risk Analysis): 2005
* DSAC (Dam Safety Action Classification) Rating: Class 4
* IRRMP (Interim Risk Reduction Measures Plan): N/A since it is DSAC 4
* IES (Issue Evaluation Study): Not required since it is a DSAC 4
* Note: The Dam Safety Modification Report (DSMR) was reviewed by the Risk Management Center (RMC) in March 2010 and the Dam Senior Oversight Group (DSOG) in June 2010. Based on the reviews, the title of the study was changed to an Issue Evaluation Study (IES). The report was revised and the IES was completed in April 2011. The DSOG re-classified this dam from a DSAC 2 to a DSAC 4. Remedial construction is not warranted at this time. This structure has been reprioritized in the risk study queue.

* FY2021 Activities: Routine O&M surveillance and monitoring program.
Official Title: Locks and Dam 52 and 53 Replacement Project (Olmsted Locks and Dam), IL and KY

Location: The project is located in Olmsted, IL near Ohio River Mile 964.4.

Purpose: Construct the new Olmsted Locks and Dam to replace Ohio River Locks and Dams 52 & 53. Demolish Locks and Dams 52 & 53 once Olmsted is operational.

Project Description and Background: The project consists of two 110’ X 1200’ locks adjacent to the Illinois bank, and a dam comprised of five Tainter gates, 1400’ of boat-operated wickets and a fixed weir. The proposed replacement structure will eliminate Ohio River Locks & Dams 52 & 53. Locks & Dams 52 & 53 were completed in 1929 and the temporary 1,200’ long lock chambers were added in 1969 at Locks & Dam 52 and 1979 at Locks & Dam 53. The antiquated design and age of these structures make it impossible to meet current traffic demands without significant delays. The existing structures have deteriorated structurally and are overstressed during normal operating conditions. Existing wicket dam has missing sections and wickets that will not raise making it very difficult to maintain pool during low water. The temporary locks at Locks & Dam 52 & 53 have significantly passed their 15-year design life.

This strategic reach of the Ohio River provides a connection between the Mississippi River, Tennessee River and Cumberland River. More tonnage passes this point than any other place in America’s inland navigation system. In 2011, 91 million tons (Locks & Dam 52), traversed this portion of the Ohio River. 25% of all coal shipped on the inland waterways transits Locks & Dam 52, destined for many of the 50 power plants located on the Ohio River System or the 17 power plants located in eight states on the Upper or Lower Mississippi River.

Current Status and Outstanding Issues: The two 110’ X 1200’ locks and approach walls are complete. All damming surfaces to include left boat abutment, right boat abutment, 5 Tainter gates, fixed weir on the Kentucky bank and all twelve navigable pass shells containing wickets are complete and operable.

Early operation of Olmsted and unseasonably high river elevations from Sept 2018 to Aug 2019 impacted our ability to complete all remaining work on the dam as scheduled. The dam contract is now complete with all work done and the contractor is demobilizing from the site.

Remaining work to complete the project is progressing through design, procurement and construction phases.

Design: Historic Book (Award scheduled CY20)
Procurement: Final Site Restoration (Award scheduled CY20)

Construction: Z-Drive Workboat; Abutment Blanks; Harbor Access; L&D 52 Marine Demo; L&D 53 Marine Phase II; Resident Office Conversion (Pole Barns); Refurbish Bulkheads; L&D 52 and 53 Landside Demo (All work awarded and ongoing)

Operation of Olmsted (6 Sep 2018) ahead of the scheduled 1 Oct 2018 date has caused cost and schedule impacts to the dam contract. The overall project is scheduled to complete in June 2022 with the delivery of the Z-drive Workboat.

Summarized Financial Data

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012 PACR</td>
<td>$3,099,000,000</td>
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<tr>
<td>2018 Total Estimated Project Cost (NWW certified)</td>
<td>$2,867,296,000</td>
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<td>Estimated Federal Cost</td>
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<td>Estimated Inland Waterways Trust Fund Cost</td>
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<td>Allocation thru FY20 including ARRA allocation thru 30 Sept 15</td>
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<tr>
<td>Benefit to Cost Ratio (at 7%)</td>
<td>1.98</td>
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<tr>
<td>Non-Federal Sponsor</td>
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</tbody>
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The Olmsted Locks & Dam project was authorized by Section 3(a)(6) of the Water Resources Development Act (WRDA) of 1988. The authorized project cost was increased on 17 October 2013 as part of a Continuing Appropriations Act, 2014 to $2,918,000,000. The project was funded 50%/50% from the General Treasury and the Inland Waterways Trust Fund (IWTF) through FY2013. The FY2014 Omnibus Appropriation Act changed the split of IWTF and General Treasury funds to 25%/75% for FY2014 only. Water Resources Reform and Development Act of 2014 changed the IWTF and General Treasury shares to 15%/85% beginning 1 Oct 2014. As of 30 Aug 2020, $2.719B has been expended on the project. The most recent (2018) economic update forecast annual average benefits at $236M. PACR annual benefits were calculated at $640M.

**Upcoming Actions:** Olmsted was put into service on 6 Sep 2018 ahead of the scheduled 1 Oct 2018 date, and 4 years ahead of the PACR milestone, to mitigate significant economic exposure to industry stakeholders given the failing condition of Locks & Dams 52 & 53. This early operational date and subsequent unseasonable extended high water event impacted completion of several critical items of the dam to include isolation piles and shell patching. Additional $63M was received through FY20 Work Plan for project delays due to the high water impact to the cost-reimbursement contract extension and procurement of remaining work.

**HQs POC:** Catherine Shuman, CECW-LRD, 202-761-1379, Catherine.M.Shuman@usace.army.mil
Olmsted Locks and Dam September 2018

Olmsted Locks and Dam November 2019
Ohio River Valley Sanitary Commission
Development of a Basin-Wide Strategic Plan

States joined in the Ohio River Valley Sanitary Commission compact formed in 1948.

Current Phase:
Planning Assistance to States Study

Location and Description:
This study will be a collaborative effort to create an actionable plan that will prioritize regional goals and objectives for general improvements in economic health, ecological well-being, and quality of life for residents throughout the Basin.

Authorization:
Section 22(a) (1) of the Water Resources Development Act of 1974 (Public Law 93-251), as amended.

FY20 Activities:
Numerous stakeholder outreach efforts were completed to identify problems and opportunities in the basin including Completion of a two-day summit as part of the ORBA/OBCRE workshop. Focus groups held in Pittsburgh, Cincinnati, and Nashville during the week of January 26-31, 2020. Revisions and preparation of draft report.

Summarized Financial Data:

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<tr>
<td>Estimated Non-Federal Cost</td>
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<tr>
<td>Total Estimated Project Cost</td>
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<td>Allocation thru FY20</td>
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<td>Balance to Complete after FY20</td>
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<tr>
<td>President’s Budget for FY21</td>
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<tr>
<td>FY21 Allocation (thru OCT 2020)</td>
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<tr>
<td>FY22 President’s Budget</td>
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FY21 Planned Activities:
Release the final report to non-federal sponsor, stakeholders, the public, and Congressional interests. Completion of project closeout.

Issues and Other Information:
None

Congressional Interest:
All Congressional Members in Kentucky, Indiana, Ohio, and Illinois
Indiana Silver Jackets Program

Current Phase:
Active

Location and Description:
Projects are located throughout the State of Indiana.

Silver Jackets teams in states across the United States bring together multiple state, federal, and sometimes tribal and local agencies to learn from one another in reducing flood risk and other natural disasters. By applying their shared knowledge, the teams enhance response and recovery efforts when such events do occur. While some states do not use the “Silver Jackets” name, there are a growing number of states applying the Silver Jackets approach – the ultimate goal is a state-led interagency team in every state. No single agency has all the answers, but leveraging multiple programs and perspectives can provide a cohesive solution.

Although each state Silver Jackets team is unique, common agency participants include state agencies with mission areas of hazard mitigation, emergency management, floodplain management, natural resources management or conservation, etc. Federal participation typically includes the U.S. Army Corps of Engineers and the Federal Emergency Management Agency and often others such as the National Weather Service and the U.S. Geological Survey.

Authorization:
USACE Flood Risk Management Program

Indiana Silver Jackets Projects

o Indiana Flood Mitigation Planner – This platform provided a searchable database for flood risk and mitigation related data. This will inform residents about flood hazard risks and equip decision makers, officials and developers with information in support of risk-informed choices to make their projects resilient today and into the future.

Non-Federal Sponsor:
• Indiana Department of Natural Resources (IDNR)
• Indiana Department of Homeland Security (IDHS)
• Indiana Department of Environmental Management
• Indiana Office of Community and Rural Affairs
• Indiana Air National Guard
• Indiana University
• Indiana University Purdue University of Indianapolis
• Purdue University
• Indiana Association of Floodplain and Storm water Management (ASFPM)
• Indiana Geographic Information Council
• Multiple Local Governments and agencies

Federal Sponsors:
• U.S. Army Corps of Engineers (USACE)
• Federal Emergency Management Agency (FEMA)
• Natural Resources Conservation Service (NRCS)
• U.S. Geological Survey (USGS)
• National Weather Service (NWS)

Activities for FY 2021:
Continue to coordinate with state and federal agencies across the State in order to better reduce flood and other natural hazard risks in Indiana.

Develop and deliver a series of educational workshops across the State to better educate local officials on best practices on working with streams and flooding.

Issues and Other Information:
None
Indiana Stream Health & Flooding 101

Current Phase: N/A

Location and Description: This effort will design & deliver an entertaining, educational outreach program consisting of a series of workshops across the state, as well as videos and other information that can be shared across social media. Primarily focused on rural communities, the workshops and materials will focus on flooding and stream behavior. Topics would include stream behavior, stream management, best practices, and practices to avoid negative watershed impacts.


FY 20 Activities: N/A

FY21 Planned Activities: Develop and deliver workshops to entities across Indiana relating to flooding and stream behavior.

Issues and Other Information: Due to an increase in flood & erosion related issues across Indiana, the Indiana Silver Jackets Team has realized there is a widespread lack of knowledge of streams and how they operate throughout the State. This project will develop an educational program focused on educating landowners, county commissioners, and county surveyors about streams. It will consist of a series of 6 workshops held throughout the State, video clips to be shared broadly through social media, and a guide detailing information shared in the workshops/videos. Partners in development of the program will include representatives from the US Army Corps of Engineers, the IN Dept of Natural Resources, IN Dept of Environmental Management, Indiana University-Purdue University of Indianapolis, IN Assoc of Floodplain & Stormwater Management, and the Natural Resources Conservation Service. The program will focus on stream dynamics & movement, protection of property & critical assets from erosion & flooding, better development planning, sediment transport, general best practices for working in/near streams, and practices to avoid. At each workshop participants would be measure both pre & post workshop to measure the increase in knowledge. The result of these workshops will lead to a better understanding of how streams work, reduced flood damages, fewer properties/critical assets impacted by erosion, better aquatic stream health, and improved water quality across the state.

Congressional Interest:
SEN Todd Young
SEN Mike Braun
REP Pete Visclosky
REP Jackie Walorski
REP Jim Banks
REP Jim Baird
REP Susan Brooks
REP Greg Pence
REP Andre Carson
REP Larry Bucshon
REP Trey Hollingsworth

Summarized Financial Data:

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<thead>
<tr>
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<th>Feasibility</th>
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As of 09/15/2020

Grissom Air Force Base, IN –
Hydrant Fuel System

Current Phase:
Construction

Location and Description:
Construct a pressurized hydrant fuel system with 16 hydrants outlets and two 556-kiloliter (kL) (3,500-barrel) above ground fuel storage tanks at Grissom Air Force Base, IN. Construct a pumphouse to accommodate 113 liter-per-second (1,800 gallon-per minute) pumps, fuel filters and separators. Construct a four position truck off-load and two position truck load facility with canopy; hydrant hose truck checkout; product recovery system; and a transfer pipeline with pig launcher and receiver. Work also includes all necessary pumps, valves, filters, control systems, cathodic protection, fire protection, emergency generator and enclosure, utility and sewer connections, access pavements, fencing, and security lighting. Site preparation and improvements are included. Demolish or decommission the existing hydrant system pumphouse, underground tanks, piping and associated facilities.

Authorization:
FY13 Military Construction

FY20 Activities:
Activities in FY20 include resolution of pre-final inspection deficiencies, commissioning of the fuel system and demolition of the old pumphouse.

FY21 Planned Activities:
Facility transfer and fiscal closeout.

Issues and Other Information:
Contractor is currently past the Contract Required Completion Date (CRCD). Omaha District conducted inspection and noted several deficiencies. Contractor has submitted corrective action plan and is proceeding with approved fixes with the number of unresolved deficiencies now down to 36. Commissioning of one Pumphouse is nearly complete and commissioning of the second Pumphouse will occur in mid-October 2020.

Summarized Financial Data:

<table>
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<th>Construction</th>
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<tbody>
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<td>$41,200,000</td>
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Congressional Interest:
Sen. Todd Young
Sen. Mike Braun
Rep. Susan Brooks