

Kentucky Lock Project Update Inland Waterways Users Board Meeting No. 89

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KY Lock Addition Bottom Line Up Front

- **Downstream Cofferdam Construction**
 - ▶ Construction proceeding well
- **Site, Demolition & Utilities contract is experiencing some cost growth**
- **\$54.8M Downstream Lock Excavation contract awarded 26 Sep at \$28M below budget**
- **Total Project Cost Estimate Update, Economic Update and Post Authorization Change Report progressing.**

KY Lock Project Overview

Bridges Superstructures - \$104M
Completed Jul 2014

Bridges Substructures - \$44M
Completed Mar 2006

D/S Lock Excavation - \$54.8M
Award – Sept. 2018

D/S Cofferdam - \$67.1M
Award - Sept. 2016

U/S Miter Gate Fab. - \$5.6M
Completed Dec 2016

D/S Lock Monoliths
Award – Sept. 2020

Upstream Cofferdam - \$17M
Completed Nov 2006

Site, Demolition, &
Utilities - \$4.1M
Award – Jan 2018

Approach Walls
Award – Sept. 2021

Upstream Lock - \$110M
Completed Feb 2017

Contract Legend

Completed
Current
Future

Lock & Associated Facilities	\$1,044M
TVA Transmission Towers	13M
P & L Railroad	97M
Hwy 62 and other roadways	100M
Total	\$1,254M

\$534.1M Obl thru Sep 2018 = 40% complete

Downstream Cofferdam

Award amount: \$67.1M
Current amount: \$65.7M
Contractor: Johnson Bros.
Award: September 2016
Complete: March 2020



First 2 Shells

BUILDING

October 2018





5 Oct 2018
Placing Sandbags 2nd Shell

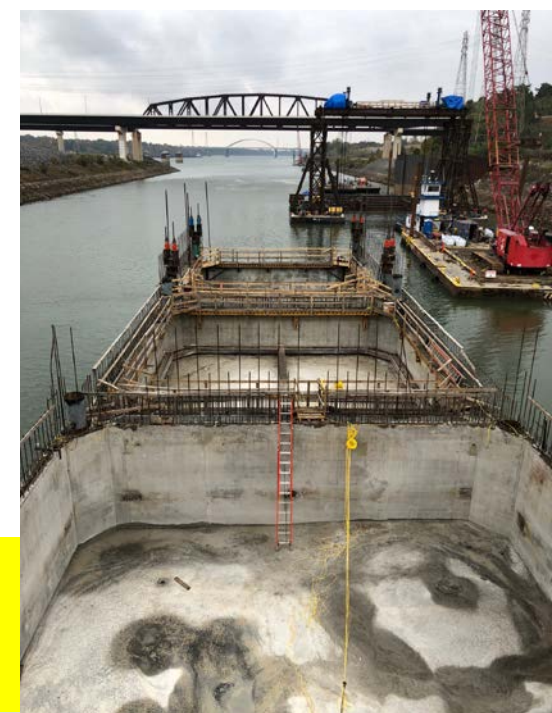
5 Oct 2018
3rd Shell.
Day after full
height casting



26 Oct 2018
3rd Shell Placement

Downstream Cofferdam Construction

27 Oct 2018
Tremie fill in
first 2 shells



BU

Downstream Cofferdam

Change in lockage
procedures with
placement of 3rd
Downstream
Cofferdam shell –
results in a triple
lockage.

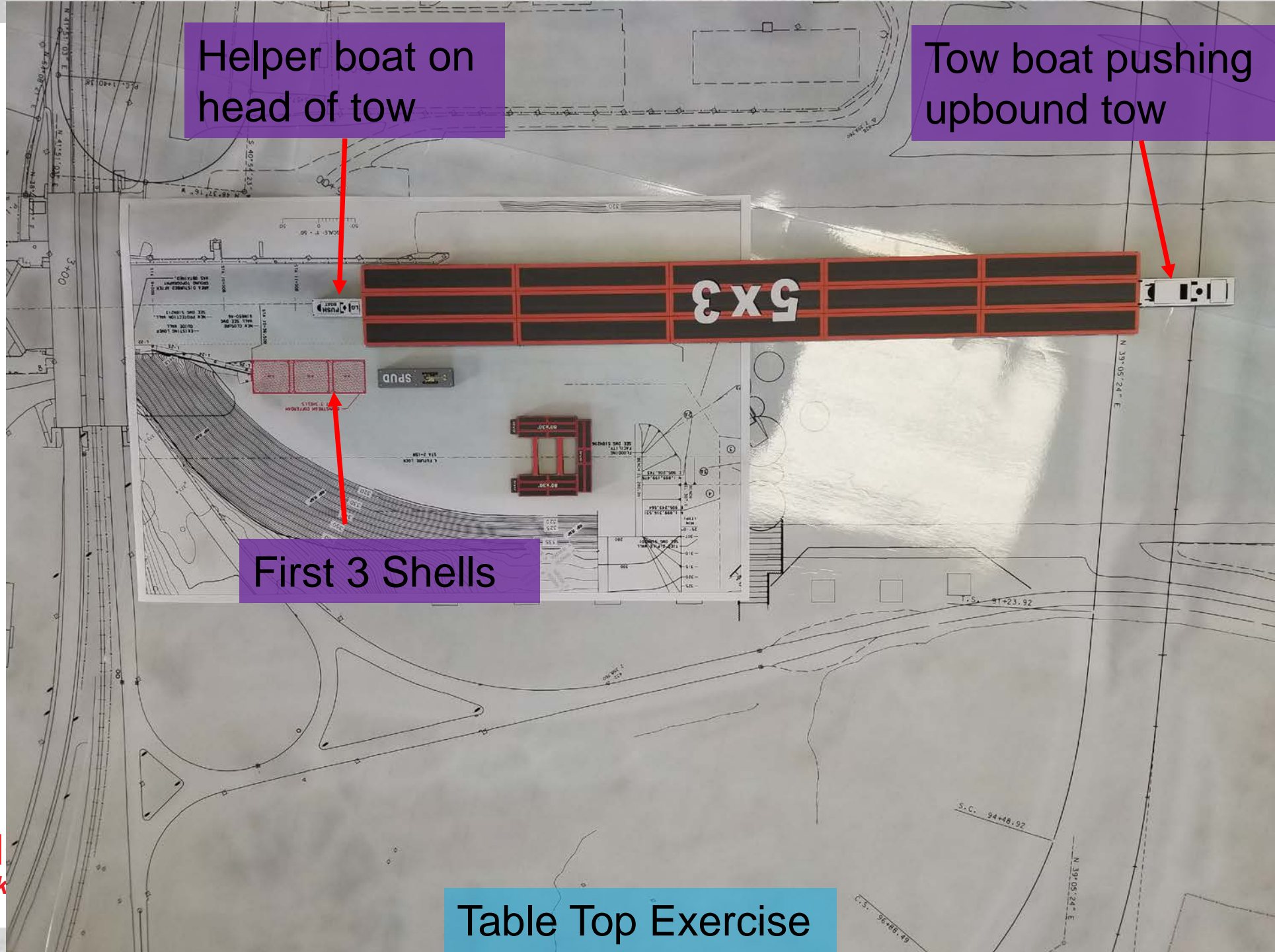
Helper boat on
head of tow

Tow boat pushing
upbound tow

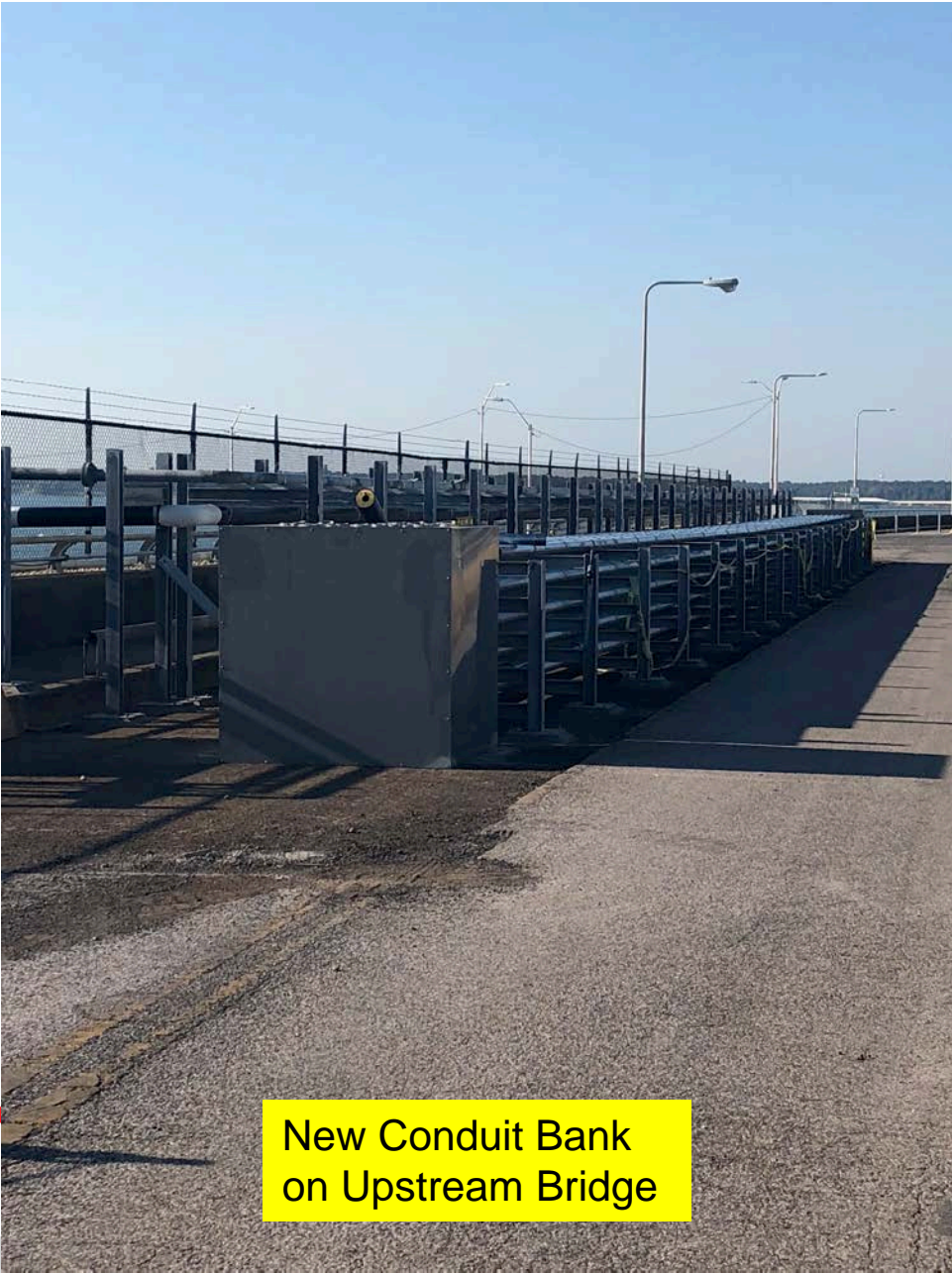
First 3 Shells

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Table Top Exercise



Site, Demolition, and
Utilities Construction



New Conduit Bank
on Upstream Bridge



Demo of Ops
Building
Addition



Placing 110'
Utility Bridge

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Downstream Lock Excavation
Awarded: 26 September 2018

Key Financial Information

- Received 6 bids
- Low bid was \$54.8M to Heeter Geotechnical
- Exercised 7 of 12 Options at award for total of \$28.4M (CG/IWTF)



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Downstream Lock Excavation Bid Results

Bidder	Total Amount
Heeter Geotechnical	\$54.8M
Thalle Construction	\$56.2M
Johnson Brothers	\$57.2M
Brayman Construction	\$58.8M
Independent Government Estimate (w/o profit)	\$60.5M
Superior Construction	\$63.4M
AECOM Energy Construction	\$71.7M



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KENTUCKY LOCK – FUTURE FUNDING AMOUNTS

- **FY19 Efficient Funding: \$28.5M**
 - Exercises 3 of 5 remaining Downstream Lock Excavation Options
- **FY19 Capability Funding: \$43.6M**
 - Exercise all 5 remaining Downstream Lock Excavation Options

Efficient Funding					
FY19	FY20	FY21	FY22	FY23	FY24
\$28.5M	\$90.3M	\$172M	\$168.6M	\$179.6M	\$33.7M

KENTUCKY LOCKS & DAM, TENNESSEE RIVER, KY

	ARRA	CG	IWTF	Total
Total Project Cost (TPC):				\$1,254,485,000 ¹
Allocations through FY2014:	\$88,833,626	\$175,955,288	\$141,460,987	\$406,249,901
FY15 Allocation:	\$0	\$7,350,000	\$7,350,000	\$14,700,000
FY16 Allocation:	NA	\$22,850,000	\$22,850,000	\$45,700,000
FY17 Allocation:	NA	\$18,000,000	\$18,000,000	\$36,000,000
FY18 Allocation:	NA	\$20,600,000	\$20,600,000	\$41,200,000*
FY19 Budget:	NA	\$0	\$0	\$0
Total Allocations to Date:	\$88,833,626	\$243,905,288	\$209,410,987	\$542,149,901
Remaining TPC Balance:				\$712,335,099
Remaining Balance Change From Last Meeting				\$0

Note: ¹Project cost data is reflective of 03 Jan 17 certified cost at a price level adjustment (OCT 17 \$'s), Fully Funded, 2024 completion

Changes

***\$41.2M reflects a \$1.7M reprogramming from Lower Mon to exercise an Option on the DS Lock Excavation contract.**

Funding Overview

- Authorized Cost: \$796,318,000 (Oct16 \$)
- 902 Limit: \$819,736,000 (Oct15 \$)
- ARRA (FY09-13): \$ 88,833,628
- Engineering & Design Cost: **\$112,162,000 (Thru FY18)**
- Supervision & Admin Cost: **\$ 21,391,000 (Thru FY18)**
- Mitigation Cost: TBD;
alternative analysis on hold pending funding

Current Status of the Project

- Downstream Cofferdam construction is **40%** complete; Site Demolition Utilities contract is **41%** complete; and Downstream Lock Excavation construction contract **<1%** completed.

Next Steps

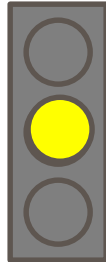
- **Certify new TPCE by 1 January 2019.**
- **Economic Update & PACR by spring 2019.**
- **Progress Downstream Monolith P&S to 30% by summer 2019.**



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Kentucky Lock Project Time and Cost Scorecard



Expenditures

30 Sep

Planned (BCWS)	\$473.1M
Earned (BCWP)	\$468.8M
Actual (ACWP)	\$463.7M

BCWP: Reports the value (based on % complete) of the work performed to date.

Target:

Actual as compared to Planned: (<1% = Green) (>1%and <3% = Yellow) and (>3% = Red)

Schedule

30 Sep

(Baseline)/(Current)

Project Complete	May 2028 / Jul 2024
Lock Operational	May 2028 / Jul 2024

Measures: Planned project completion and Lock operational dates

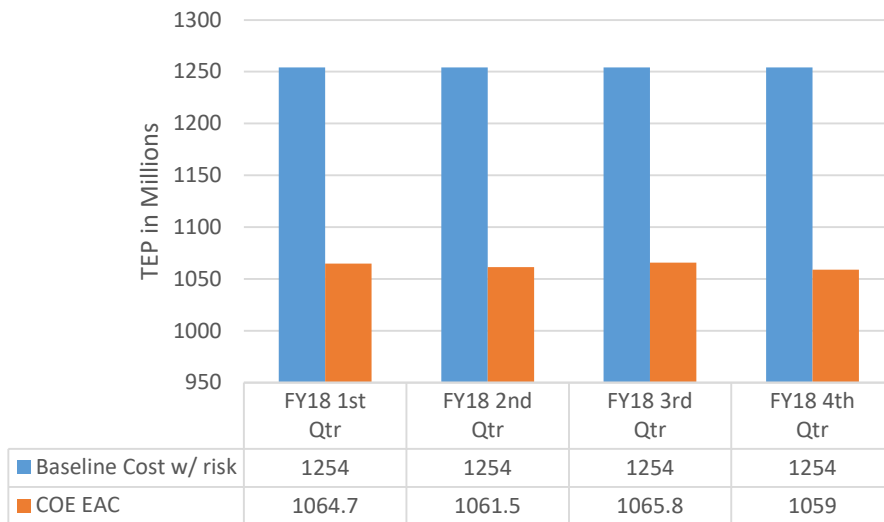
Target:

PACR Anticipated in FY19.



Budget

KY Lock Project TEP Trend



Major Activity Schedule

Activity	Baseline	Current
Level 3 Economic Update – Draft Report	14 Nov 2017	Jan 2019
Site, Demolition, & Utilities – Award Contract	Sep 2017	Jan 2018(A)
PACR to HQ	Feb 2018	Sep 2019
Downstream Lock Excavation Award Contract	Sep 2018	Sep 2018 (A)



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KY Lock Project Schedule

Major Project Activity	Start/Award	Complete ²
Upstream Lock Monoliths Construction Contract	Jan 2010	Feb 2017
Downstream Cofferdam Construction Contract	Sep 2016	Mar 2020
Site, Demolition & Utilities Construction Contract	Jan 2018(A)	Jan 2019
Downstream Lock Excavation Construction Contract	Sep 2018(A)	Mar 2021
Downstream Lock Monoliths Construction Contract	Sep 2020	Mar 2024
Approach Walls Construction Contract	Sep 2021	Nov 2023
Total Project Cost Estimate (2 year cycle)	Sep 2018	Dec 2018
Economic Update	Jan 2017	June 2019
Post Authorization Change Report for 902 Exceedance ¹	Jul 2017	Sep 2019

Note: Red indicates revised date from previously reported

¹902 Exceedance expected as early as FY2022

² Assumes no risk. 80% confidence schedule adds 46 months to project completion date.

KY Lock

Summary and Challenges

- Downstream Cofferdam construction going well but it is a high risk contract due to constricted marine area and geology.
- Progress on Downstream Cofferdam has reached a point where it is and will reduce lockage efficiency until its completion.
- Recent years average delays at KY Lock >8 hours and traffic levels remain robust. This should bode well for benefits in ongoing Economic Update.