

Kentucky Lock Project Update Inland Waterways Users Board Meeting No. 84

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PROJECT MANAGER
Kentucky Lock Addition
Nashville District
19 July 2017



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KY Lock Addition BLUF

■ Bottom Line Up Front

► Downstream Cofferdam Construction

- Exercised all remaining Options (\$27.5M) on 31 May 2017.
- Reduction in Navigation impacts:
 - ▷ Value Engineering Proposal to eliminate underwater blasting increases safety and reduces amount of lock closures. Draft plan has been received; currently waiting on final documents to be submitted by the Contractor.
 - ▷ Planned tow size restriction dropped because of development of alternate procedures by Port Captains and Lockmaster

► Level III Economic Update is proceeding full tilt

KY Lock Project Overview

Bridges Superstructures - \$104M
Completed Jul 2014

Bridges Substructures - \$44M
Completed Mar 2006

D/S Excavation
Award – Sept. 2018

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

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

D/S Lock
Award – Sept. 2019

Upstream Cofferdam - \$17M
Completed Nov 2006

Upstream Lock - \$110M
Completed Feb 2017

Approach Walls
Award – Sept. 2021

Site, Demolition, &
Utilities
Award – Dec 2017

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

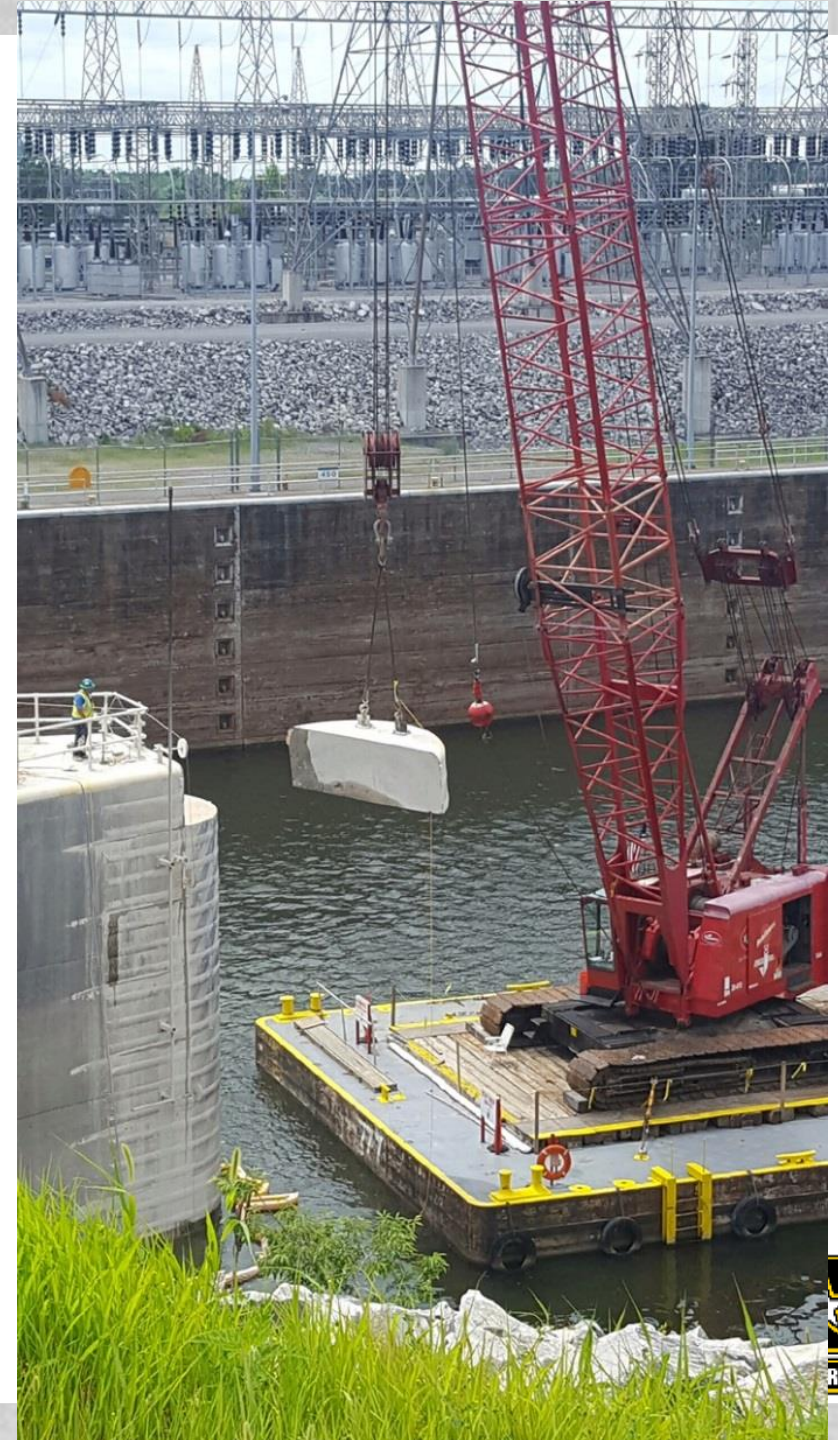
\$498M Obl thru June 2017 = 40%
complete

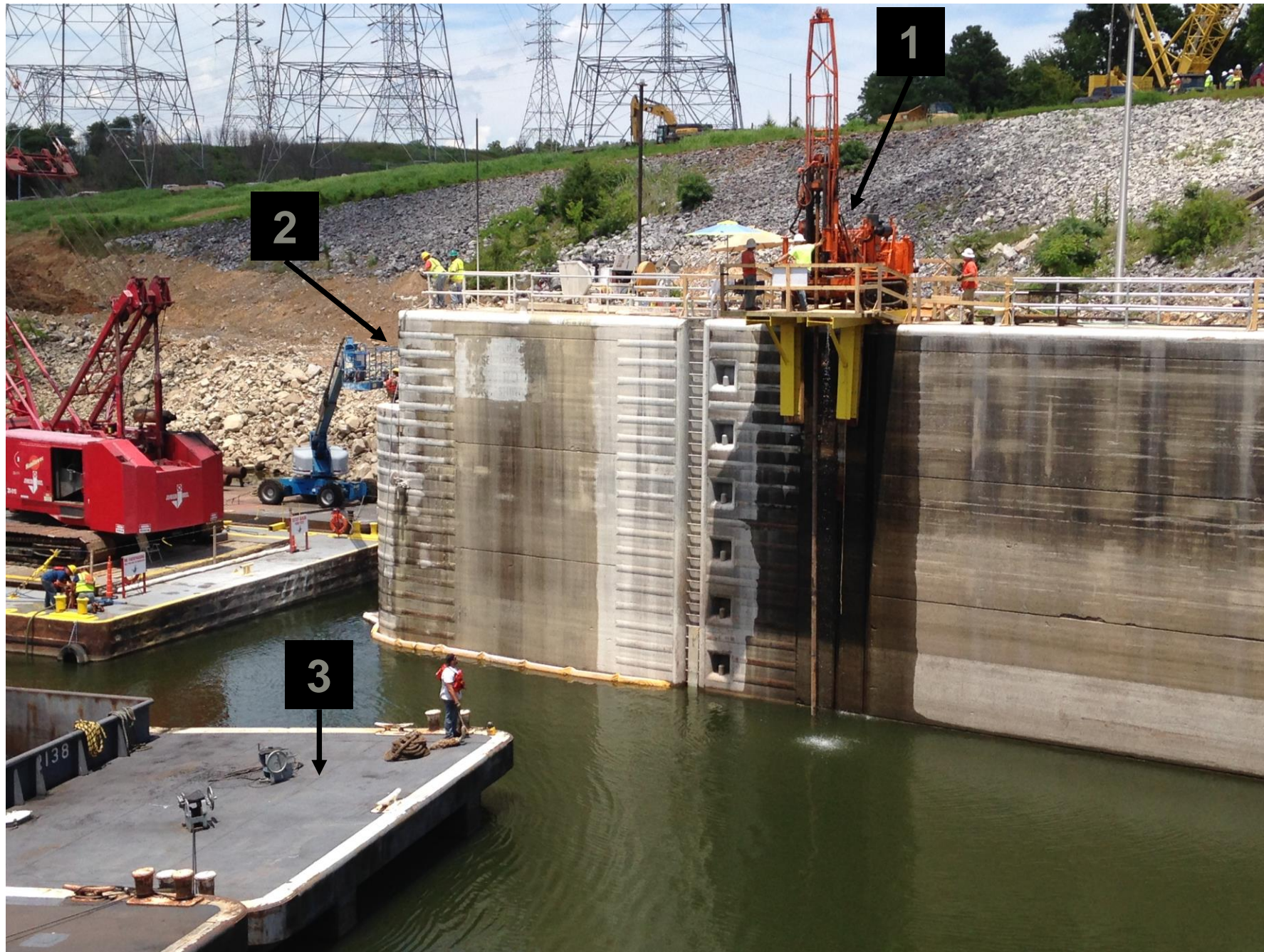


L-25 Bullnose
Demolition to
allow attachment
of Downstream
Cofferdam

27 June 2017

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1. Exploratory drilling from top of existing wall;
2. Concrete removal of nose pier for future cofferdam connection;
3. Example of active navigation traffic alongside on-going construction.

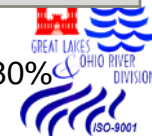
KY Lock Project Schedule

Major Feature Construction	Award	Complete ²	Revised
Upstream Lock Monoliths Construction	Jan 2010	Feb 2017	Complete
Downstream Cofferdam Construction	Sep 2016	Nov 2019	
Site, Demolition & Utilities	Dec 2017	Jan 2019	
Downstream Lock Excavation Construction	Sep 2018	Dec 2020	
Downstream Lock Construction	Sep 2019	Mar 2024	
Approach Walls Construction	Sep 2021	Nov 2023	
Risk Based Total Project Cost Estimate	Mar 2016	3 Jan 2017	Complete
Economic Update	Jan 2017	Jan 2018	
Post Authorization Change Report for 902 Exceedance ¹	Jul 2017	Mar 2018	

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¹902 Exceedance expected by FY2022

² New schedule associated with new cost estimate. Assumes no risk. 80% confidence schedule adds 46 months to project completion date)

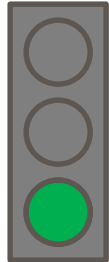


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Kentucky Lock Project

Time and Cost Scorecard



Expenditures

28 Apr

Planned (BCWS)	\$432.4M
Earned (BCWP)	\$432.4M
Actual (ACWP)	\$432.4M

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

28 Apr

(Baseline)/(Current)

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

Measures: Planned project completion and Lock operational dates

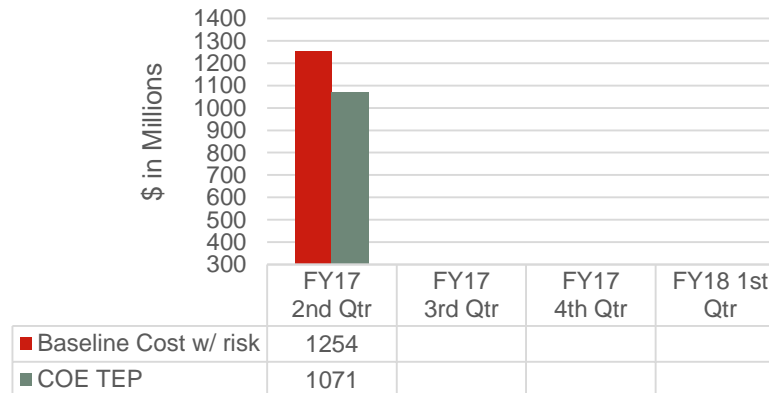
Target:

PACR Anticipated in FY18.



Budget

Chickamauga Project TEP Trend



Major Activity Schedule

Activity	Baseline	Current
Level 3 Economic Update – Draft Report	14 Nov 2017	14 Nov 2017
Site, Demolition, & Utilities – Award Contract	Sep 2017	Dec 2017
PACR to HQ	Feb 2018	Feb 2018

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Cost Estimate Comparison

Feature	Authorized Cost	2017 TPCE	Difference	Per Cent Difference
	(FY2017 Price Level)	(FY2017 Price Level)		
Approach Channels	\$6,338,182	\$11,501,124	\$5,162,942	81%
Lock Monoliths	\$160,213,038	\$217,039,656	\$56,826,618	35%
Lock Excavation	\$12,903,034	\$23,784,911	\$10,881,877	84%
Electrical	\$12,075,155	\$9,993,022	-\$2,082,133	-17%
Gates & Machinery	\$46,307,430	\$53,100,199	\$6,792,769	15%
Cofferdams	\$52,712,225	\$94,358,499	\$41,646,274	79%
Hwy & RR Relocations	\$60,374,265	\$163,968,191	\$103,593,926	172%
Approach Walls	\$39,793,810	\$99,224,879	\$59,431,069	149%
Plan, Eng, & Design	\$70,604,371	\$125,324,501	\$54,720,130	78%
Constr. Management	\$32,733,138	\$50,448,542	\$17,715,404	54%
Total	\$734,419,913	\$1,180,973,724	\$446,553,811	61%

Note: All costs above are first costs,
not fully funded.

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KY Lock

Summary and Challenges

- \$27.5M in Downstream Cofferdam Options exercised on expiration date of 31 May 2017.
- Recent years average delays at KY Lock >9 hours and traffic levels remain robust. This should bode well for benefits in ongoing Economic Update.
- 902 Limit is \$819M vs. current TPCE of \$1.25B – Post Authorization Change Report being developed in concert with Economic Update