

Lower Monongahela L&Ds 2-3-4 Project

Inland Waterways Users Board Meeting #82

MS. Jeanine Hoey, PE, PMP
Chief, E&C Division
Pittsburgh District
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Lower Mon Bottom Line Up Front

✓ Current Schedule: **On Schedule**

- ▶ 2023 (Project Operational)
- ▶ 2023 (Project Complete)

✓ Current Cost: **On Budget**

- ▶ TEP (\$1.2 B) – Total Estimated Price

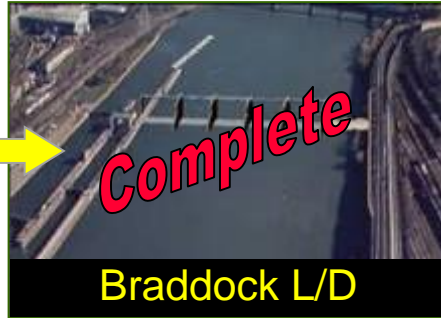
✓ Keys:

1. Fiscal year capability must include contingencies for modifications to fully funded contracts in order to avoid schedule slips.
2. Development of alternatives to bring project in ahead of schedule was evaluated.
 - Linear nature of RCC contract has best case reduction of 5 months (to achieve 90% of project benefits, associated with Breaching of L/D3) – **Earliest implementation of these alternatives is associated with the award of RCC Option 3 and RCC Option 4, FY 2018 and FY2019, respectively.**
 - Removal of L/D 3 is the final critical path item, following breach (benefits)
 - L/D 3 removal contract performance period– reduction possible, will be evaluated when P&S are developed.

Lower Mon - Project Overview

Pre-Project Condition

Post-Project Condition



Major Project Features

- New Dam at Braddock
- New Locks at Charleroi
- Dredging
- Removal of Locks and Dam 3
- Relocations

Financial

- 902 Limit: \$1.76 Billion
- Current Estimate at Completion \$1.2 Billion, including contingencies *1

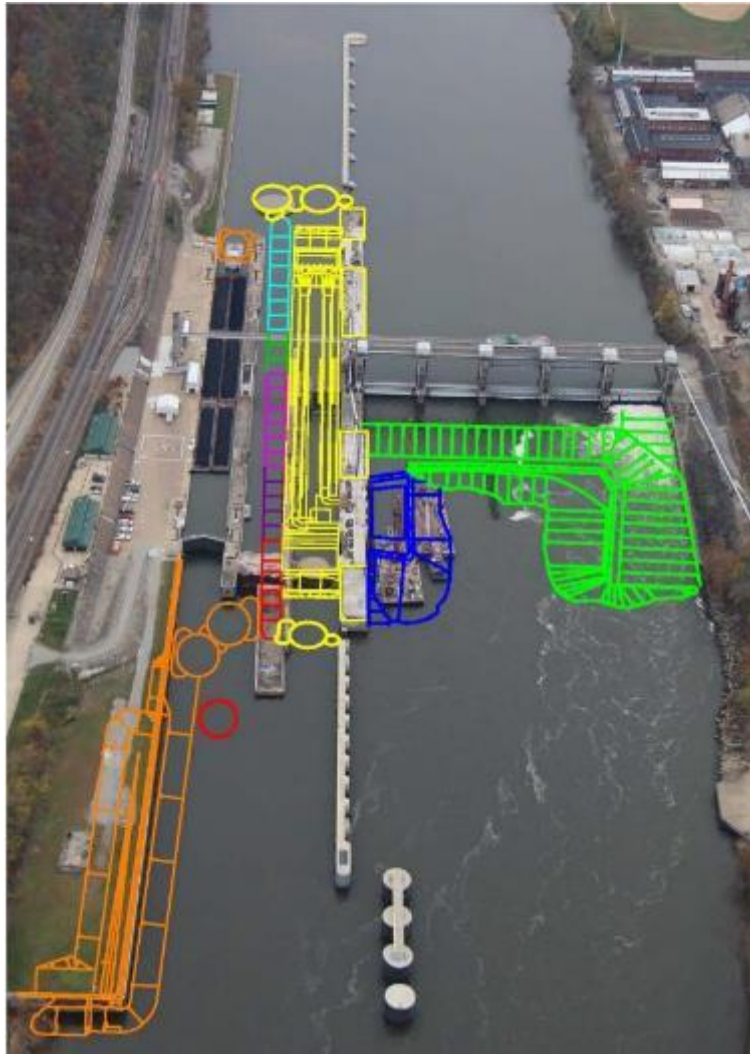
*1 does not include Land Chamber nor Port Perry Bridge

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Lower Mon - Project Schedule

Major Feature Construction	Last Reported Completion (Dec 2016) No FY17 W.P.	Last Reported Completion (Dec 2016) with FY17 W.P.	Revised (with FY17 W.P.)
Charleroi River Wall *1	FY 2016	FY2017	Completed 2017
Charleroi M22-M27	FY 2019		
Charleroi Dam Stilling Basin	FY 2021		
Charleroi River Chamber Completion	FY 2027	FY 2023	
Dredging Pool 3	FY 2027	FY 2022	
Relocations	Variable		
Lock and Dam 3 Removal	FY 2027	FY 2023	

Lower Mon – Charleroi Ongoing / Pending Construction Plan



Description	Last Reported Completion	Current Completion (FY17 Work Plan)	Current Completion (No FY17 Work Plan)	Previously Planned Award	Current Planned Award	Option Expires	% Complete
M22-M27	2018	2019	2019	Completed		NA	38%
RCC Base	2023	2023	2019	Completed		NA	39%
RCC Opt 1	2023	2023	2027	May 17	May 17	30 Sep 17	NA
RCC Opt 2	2023	2023	2027	Jun17	Jun17	30 Sep 18	NA
RCC Opt 3	2023	2023	2027	Nov 17	Nov 17	30 Sep 18	NA
RCC Opt 4	2023	2023	2027	Dec 18	Dec 18	31 Mar 20	NA
RCC Opt 5	2023	2023	2027	Nov 20	Nov 20	31 Mar 21	NA
Stilling Basin	2021	2021	2021	Oct 18	Oct 18	NA	NA

Notes:

- RCC – River Chamber Completion
- RCC Option 1 will be awarded in May17, funds permitting – **Project delay day for day thereafter.**
- RCC Option 2 will be awarded in June17, funds permitting
- Risk informed RCC completion is 2027.
- Remaining project features not shown on this slide:
 Dredging (Late FY17 planned award)
 Pool Clearing (FY21 planned award)
 Lock and Dam 3 Removal (FY21 planned award)
 Relocations

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Charleroi Construction Images



1 - M22-M27 Contract: Setting pre-cast culvert in M22

2 - RCC Base Contract: Base contract cofferbox (M1-M7) structural components completed, cofferbox excavations started.

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Lower Monongahela River Project Time and Cost Scorecard



Expenditures

Planned (BCWS)	\$630.7M
Earned (BCWP)	\$651.7M
Actual (ACWP)	\$650.7M

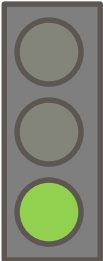
Target: Actual as compared to Planned: (<5% = Green); (>5% and <10% = Yellow); and (>10% = Red)
 Values shown reflect project sunk cost of \$550.6M thru FY 2014 and Current data thru **December 2016**
 CV = 0.2%, CPI=1.00

Schedule

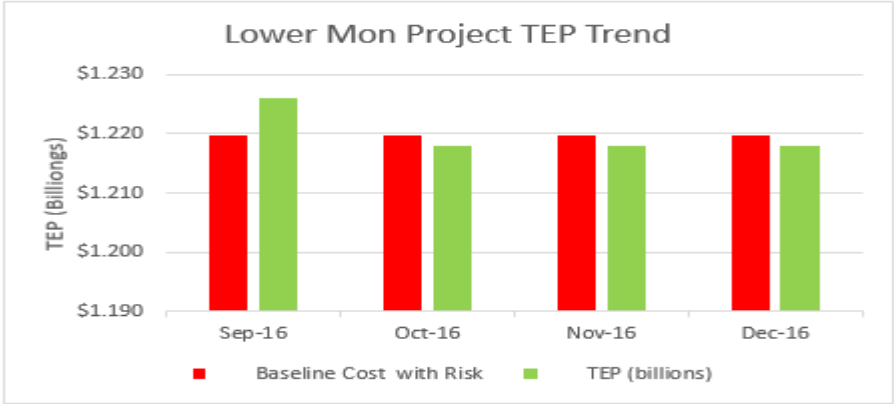
(Baseline)/(Current Early)

Operational (Realize over 90% of project Benefits)	2027 / 2023-2022 *
Operational (Realize over 90% of project Benefits)	2027 / 2026 **
Project Complete	2029 / 2028

* With FY 2017 work plan funding
 ** Without FY 2017 work plan funding



Budget



	Sep-16	Oct-16	Nov-16	Dec-16
■ Baseline Cost with Risk	\$1.220	\$1.220	\$1.220	\$1.220
■ TEP (billions)	\$1.226	\$1.218	\$1.218	\$1.218

Major Activity Schedule

Activity	Baseline	Current
Award RCC Option 1 (w/ concrete)	NA	May 17
Award RCC Option 2 (w/ concrete)	NA	Jun 17
Stilling Basin Model	FY17	Feb 17
Dredging RTA	FY17	May 17

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Discussion

M22-M27 Contract – Cofferdwall Formwork



RCC Contract – Excavation by airlifting inside bellies of coffer box sheet piling

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