Inland Waterways Users Board #73 – "Using 'Risk Exposure' for Development of Inland Navigation Life-Cycle Investment Strategies"

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US Army Corps of Engineers BUILDING STRONG_®

The Journey Continues...

Delivering for the Present While Preparing for the Future

Subjective

Objective

Life Cycle **Portfolio AM Interim Step** Improvements Risk - OCA Ver 2.0 - Mature Failure Curves tied to Original Exposure Actual M&R Investments Capital Screening - Reliability Event Trees **Projects** Full IMTS "Systems" Analysis (Supply and Demand) **Business** - OCA Condition on 166K - Optimal Life Cycle Investment components - Continued collab and Model Strategies, PM to - Baseline Failure Curves integration with **Planning CX** Recapitalization - Annual Econ Impact on for Inland Navigation and - Single "Top Level" **Risk Management Center** Shipper and Carriers for Condition - Move beyond Annual Econ Unsch Outages (1-365 days) - No Probabilities impact to Benefits over - Only Annual Econ extended Service Life Impact Strategic Internal and External Communications throughout! IWUB Updates and Feedback On Horizon...Review and Feedback **Biweekly Industry Conf**

- Calls/Webinars/Feedback
- Face to Face as Required

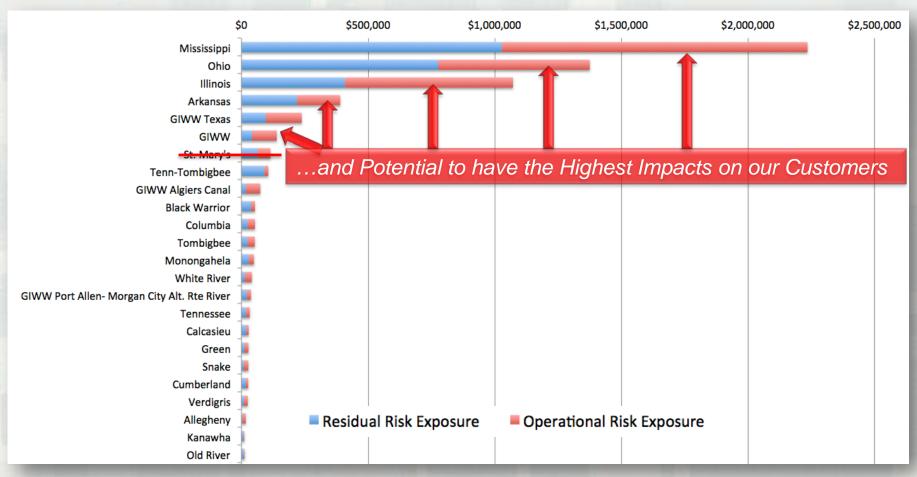
on WRRDA Capital Investment Strategy Report



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DRAFT Total Risk Exposure by Waterway

(Varying "Importance" of Different River Systems)



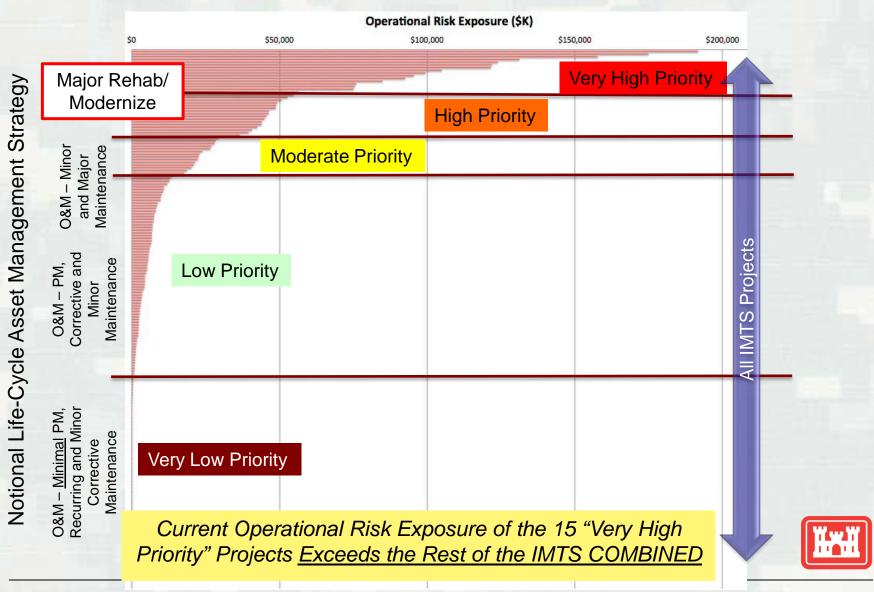
Note: "Waterway" Risk Exposure also driven by # of Projects

...so let's focus on the Operational Risk Exposure that has the highest potential to impact the navigation mission...



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DRAFT Capital Investment Priority Classes



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2010 CPBM Compared to Initial Draft Results from Updated Analysis

Table 4-8. Total Ranking for the 10 Highest Ranked Projects				Initial DRAFT Operational Risk Exposure Results			
Project Name	Subproject Name	Criteria Total	Rank	νн	н	М	L
Olmsted Locks and Dam	Olmsted L/D Construction	90.5	1	x			
Monongahela Locks and Dams 2, 3, and 4	Lower Mon 2,3,4, Dam Features	69.5	2				х
Monongahela Locks and Dams 2, 3, and 4	Lower Mon 2,3,4, Lock Features	68.8	3				х
Greenup Lock, Ohio River	Greenup Lock Extension PED	59.0	4		X		
Chickamauga Lock	Chickamauga Replacement Lock	40.2	5				х
Upper Mississippi & Illinois Waterway, L/D 25	1200' Lock Addition	26.9	6	х			
Upper Mississippi & Illinois Waterway, L/D 22	1200' Lock Addition	26.5	7	х			
Kentucky Lock Addition	Kentucky Lock Addition	26.3	8				х
Inner Harbor Navigation Canal Lock	IHNC	23.9	9	x			
Upper Mississippi & Illinois Waterway, Lagrange	1200' Lock Addition	23.2	10	х			

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* Current draft IMTS traffic forecasts indicate that there is not a capacity-driven need for any chamber expansions.

Summary of Initial Draft Results - Very High & High Priority			
Waterway # of Projects			
Mississippi	12		
Ohio	8		
Illinois	6		
GIWW	4		
MKARNS	2		

- "Very High Priority" AND "High Priority" Projects Account for > 75% of Current Operational Risk Exposure over entire IMTS!!
- Indications of Priority Projects NOT in 2010 CPBM

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Status and Next Steps

- Developed Project Risk Profiles (Feature down to Component Level) for Very High and High Priority Projects
- Determine if the "Priority" Projects meet the Major Rehab Criteria (in the near term)?

The "Project" is a Major project feature restoration which - -

- 1. consists of **structural work** on an inland navigation facility operated and maintained by the Corps of Engineers;
- 2. will significantly extend the physical life of the feature;
- 3. is economically justified by a **benefit-cost analysis**;
- 4. will take at least 2 years to complete; and
- 5. will require **at least \$20,000,000 or current threshold** in capital outlays
- Verify Scope at MSC/District, apply Cost Center of Expertise Rough Order of Magnitude (ROM) Costs, adjust as required

Enables Development of a Strategic Integrated Life-Cycle Inland Navigation Investment Plan



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Questions?



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