

Inner Harbor Navigation Canal (IHNC) Lock Replacement General Reevaluation Report

Inland Waterways Users Board Update

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Existing IHNC Lock



Florida Avenue Bridge

Inner Harbor Canal

Claiborne bridge

Existing Lock →

St. Claude bridge

Mississippi River

Plan Formulation – Economic Results

Inner Harbor Navigation Canal				
Lock Replacement GRR				
Average Annual Benefit - Cost Summary ¹				
Elastic Movement-Level Demand ²				
(Dollars, Average annual 2.875% discount/amortization rate, 2019-2082 with 2032 base year)				
Lock Alternative	Plan 2: 900' x 75'	Plan 3: 900' x 110'	Plan 4: 1,200' x 75'	Plan 5: 1,200' x 110'
First Cost of Construction	\$936,940,000	\$951,310,000	\$972,060,000	\$1,001,740,000
Interest During Construction	\$209,860,000	\$213,650,000	\$218,350,000	\$225,590,000
Total Investment	\$1,146,800,000	\$1,164,970,000	\$1,190,400,000	\$1,227,320,000
Average Annual Const. Cost	\$43,520,000	\$44,210,000	\$45,170,000	\$46,570,000
Average Annual Increm. O&M	\$1,370,000	\$1,350,000	\$1,440,000	\$1,440,000
Total Average Annual Cost	\$44,890,000	\$45,560,000	\$46,610,000	\$48,010,000
Total Average Annual Benefits	\$214,680,000	\$217,920,000	\$216,790,000	\$218,270,000
Net Excess Benefits	\$169,800,000	\$172,350,000	\$170,180,000	\$170,260,000
B/C Ratio	4.78	4.78	4.65	4.55

¹PCXIN-RED 20-AUG-2016 preliminary draft NIM results.

²GEC Reference Traffic Demand Forecasts and Wilson Calcasieu study commodity group elasticities.

Rankings by:	Plan 2: 900' x 75'	Plan 3: 900' x 110'	Plan 4: 1,200' x 75'	Plan 5: 1,200' x 110'
Net Excess Benefits	4	1	3	2
B/C Ratio	2	1	3	4



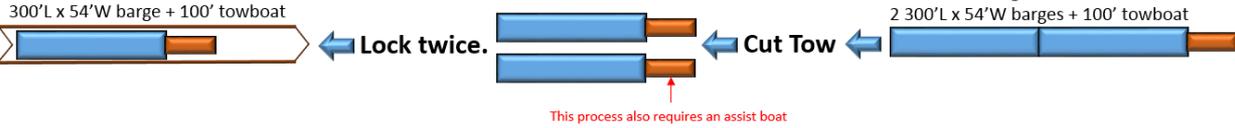
QUESTIONS?



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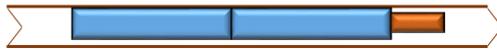
The existing 640'L x 75'W lock, can only process one barge and a towboat, after a cut:



The existing 640'L x 75'W lock, could process up to 5 "small" barges with a towboat in the following configurations:



900'L x 75'W can lock one, 2 barge (700') tow without a cut:
2 300'L x 54'W barges + 100'towboat



← Lock once.

2 barge 700' tow:
2 300'L x 54'W barges + 100' towboat



900'L x 110'W can lock 2, 2 barge 700' tows,
side-by-side without a cut: 2 300'L x 54'W barges + 100'towboat

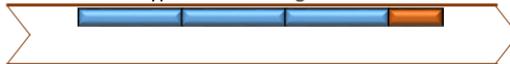


← Lock once.

2, 2 barge 700' tows:
2 300'L x 54'W barges + 100' towboat



900'L x 110'W could lock up to 9 "small" barges
with a towboat for each 3 barge tow as depicted in the following
hypothetical configurations:



← Lock once. ←



← Lock once. ←

200'L x 35'W barge configurations
+ 100' towboat end to end



1,200'L x 75'W can lock 1, 2 barge 700' tow without a cut: 2
300'L x 54'W barges + 100'towboat



← Lock once.



Second two barge tow does not fit

Typical 2 barge 700' tow:
2 300'L x 54'W barges + 100' towboat



1,200'L x 110'W can lock 2, 2 barge 700' tows, side-by-side
without a cut: 2 300'L x 54'W barges + 100'towboat



← Lock once.



Third tow would not fit

2, 2 barge 700' tow:
2 300'L x 54'W barges + 100'towboat

