

VALUE ENGINEERING PROPOSAL

PROPOSAL NO: P-1

PAGE NO: 1 OF 3

DESCRIPTION Designate 110-foot Wide Lock as Recommended Plan

ORIGINAL DESIGN:

The 75-foot wide lock is currently identified as the recommended plan.

PROPOSED DESIGN:

Designate the 110-foot wide lock as the recommended plan.

ADVANTAGES:

1. Conforms to current and future transportation requirements.
2. Reduces locking time (re-stacking of wider barge groups) and, therefore, increases benefits.
3. Reduces accident risk.

DISADVANTAGES:

Increases first cost by approximately 20 percent (\$9.4. million).

JUSTIFICATION:

The District intends to recommend the 110-foot wide lock as the recommended. The independent review of the V-E Team fully endorses this position as discussed below. The current economic analysis indicates only a marginal difference in net benefits between the \$46.8 million 75-ft wide lock and the \$56.2 million 110-foot wide lock. In accordance with Corps Planning Guidance, NED designation is assigned to the lower first cost plan, given such a marginal difference in net benefits. In this case, however, there are number of significant "non-quantifiable" and several "quantifiable" issues that may suggest that the National Interest would be best served with the wider lock. First, is that the waterway users strongly favor a 110-foot wide lock as it appears to be the transportation industry standard to commonly stack barge groups in this configuration. Most of the other new locks in heavy transport locations (Mel Price, MRGO) are being sized at the 110-foot width. Future changes in industry standards would likely be larger, i.e., 110-feet wide. Economic margin of error and risk analysis would, therefore, likely favor the wider lock. A more important consideration, which may also be quantified, involves safety and potential accidents. The wider lock would offer a higher degree of safety and reduction in the risk of a major accident. Given the fact that this lock serves a heavy amount of petrochemicals

VALUE ENGINEERING PROPOSAL (Continued)

PROPOSAL NO:	P-1	PAGE NO:	2 OF 3
DESCRIPTION	Designate 110-foot Wide Lock as Recommended Plan		

and bulk industrial material barge traffic, the consequences of a major accident could be enormous in economic, environmental and potential loss of life. The benefits of such a reduction of safety risk could be quantified and may indicate overall justification for the wider lock as the recommended plan (See Design Comment No 5).

COST ESTIMATE WORKSHEET				
PROPOSAL NO.: P-1				PAGE 3 OF 3
DELETIONS				
ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
75 FT Wide Lock				
First Cost	LS	1	\$46,800,000.00	\$46,800,000
Present Worth of Annual Benefits				
= 14.6 \$M/Yr x 14 (PWF)		1	-\$204,400,000.00	-\$204,400,000
			Total Deletions	-\$157,600,000
ADDITIONS				
ITEM	UNIT	QUANTITY	UNIT COST	TOTAL
110 Ft Wide Lock				
First Cost	LS	1	\$56,200,000.00	\$56,200,000
Present Worth of Annual Benefits				
= 14.9 \$M/Yr x 14 (PWF)		1	-\$208,600,000.00	-\$208,600,000
			Total Additions	-\$152,400,000
			Net Added Life Cycle Cost	\$5,200,000
	*	Markups	25.00%	\$1,300,000
			Total Added Life Cycle Cost	\$6,500,000
*	Markups include: Contingency; Escalation; Engineering/Design; and SIOH			