CONC

Interoffice Communication

To L. N. Vernon - Saddle Brook

From J. A. DeBernardi

Date July 10, 1975

Subject Additional Chlorine Unloading Station

Cost and timing estimate for the subject unloading rack addition made by the plant is as follows:

A. COST

The basis used for determining the cost for this project was a CED preliminary estimate done in August, 1974. Changes made in this estimate includes:

1) A quoted price of $16,500 from LRM, Inc. (November, 1974) for the connection of the chlorine track to track No. 4 instead of CED's $6,500 estimate. This will allow access to the chlorine rack system from both the east and the west.

2) Additional stanchion and pipe work required to relocate the second unloading spot in a more useful position.

3) An escalation and contingency factor of 20% instead of CED's 16% allowance.

4) Dropping of home office charges of $4,200 and addition of contract engineering charges of $4,000.

A breakdown of costs including these changes is as follows:

Direct Cost	$ 31,100
Rail Spur Alteration	16,500
Field Cost	9,200
Tax, Bonds, etc.	1,000
	$ 57,800
Escalation (20%)	11,560
	$ 69,360
Contingency (20%)	13,872
	83,232
Contract Engineering	4,000
Total	$ 87,000 (rounded)

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It is our opinion that the $87,000 total is a conservative estimate that could be used for AFE submission without an AFE quality estimate being made at CED. If this approach were used, the contract engineering firm would begin work at the plant based on an existing plant process design and leading to development of a bid package for contractor submittal.

B. TIMING

Project timing was estimated as two separate alternates. The first alternate assumes the development of an AFE quality process and mechanical design being accomplished by CED leading to an AFE quality estimate before AFE submittal. The second assumes immediate submittal of an AFE based on the cost analysis given above, and the use of a contract engineer at the plant site for mechanical design. In both cases a three-month equipment delivery and one month installation time were used.

The first alternate was estimated at seven months from project start to on-stream. The second alternate is estimated at five months from start to on-stream.

C. DISCUSSION

Our present demonstrated maximum instantaneous unloading rate is 275 T/D. We have found our bottleneck to be somewhere in the nitrogen supply system to the tank cars. We have not pinned down the cause as yet, but will take the necessary steps to determine where the problem is. Our average daily unloading rate is 200 T/D. This average rate takes into account purging, disconnect, car switching, hook-up, and pressure-up time required per car.

We would anticipate that the addition of a second unloading spot and track changes to allow access would at minimum allow us to continuously unload at the 275 T/D rate since all the necessary car change operations can easily be accomplished while the second tank car is being unloaded.

In addition, if the nitrogen supply problem can be inexpensively solved, we may have the potential of unloading at a rate of 360 T/D with the two unloading spots. This maximum rate is set by the internal check valve capacity in the chlorine tank cars, and could be adversely affected by tank car scheduling or Pumper/Loader workload problems.

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