

UNITED STATES STEEL

APPROPRIATION REQUEST SUBMITTED FOR CONSIDERATION OF

BOARD OF DIRECTORS - SEPTEMBER 29, 1964

TITLE - Replace Gas Processing Facilities and Provide for Production of Anhydrous Ammonia				
APPROPRIATION NUMBER - 1-0181		TYPE - II-Y	GROSS	\$ 67,195,200
OPERATION OR DIVISION - Heavy Products			LESS	\$ -
LOCATION - Clairton Works			NEW MONEY	\$ 67,195,200
BUDGET REFERENCE - Included for 1965 in 1964 Budget Presentation				\$ 50,600,000
BENEFITS AFTER FIT		VERIFIABLE \$ -	YEARS TO RECOVER	8.9
		TOTAL \$5,039,000 (See Exhibit "B")		
INCREASED COST BEFORE FIT - \$ -				
INCREASED SALES/YEAR 414,000 Tons Anhydrous Ammonia-See Exhibit "C"				SALES PENETRATION PERIOD: 3 Yrs.

PRESENT CONDITIONS: Clairton Coke Works (20 batteries with an annual rated capacity of 7,235,000 tons of coke) is U.S. Steel's largest and low cost producer of coke. Facilities include coal chemical recovery equipment which produces a wide variety of products for market and coke oven gas for fuel in U. S. Steel Plants.

The gas processing equipment (1918-27) is deteriorated and obsolete with necessary replacements "in-kind" during the next few years estimated to cost \$28 million. The coke oven gas produced contains objectionable amounts of sulfur. The ammonia in the gas is removed through the production of Ammonium Sulfate. The market for Ammonium Sulfate has steadily declined during the past several years.

A new method for gas processing has been developed which uses higher pressure gas compression and cryogenic separation techniques. This method has been satisfactorily operated in Europe and in pilot plant Applied Research operation at Clairton Works and has many attendant benefits. It is an ideal base method for the subsequent low cost production of anhydrous ammonia.

The market for anhydrous ammonia, a prime source of fertilizer nitrogen, is rapidly growing and will continue to grow to meet an expanding domestic and world population. Its production at Clairton in large quantities (1,150 tons per day) at a low cost will enable U.S. Steel to obtain a sizable portion of this profitable market.

Authorizations to date related to this project are shown on Exhibit "J" attached.

PROPOSAL: To replace the coke oven gas processing facilities with new modern equipment to remove the tar and naphthalene and ammonia from the gas from 19 batteries and the light oil and sulfur from the gas from 16 equivalent batteries and to provide facilities for production of 386,000 annual tons of synthetic anhydrous ammonia.

To provide funds for five anhydrous ammonia distribution terminals with release of funds for each individual terminal subject to prior approval of the Operations Policy Committee after location, design, and estimated cost becomes firm.

The Carnegie Natural Gas Company will require an expenditure of \$3,832,000 for supply pipe lines and the Ohio Barge Line \$4,750,000 for a towboat and six barges for river transportation of anhydrous ammonia. This results in a total estimated project cost of \$77,529,000 (See Exhibit "A").

Authorizations will be required for long term natural gas and barge contracts and tank car agreements. Authorization Requests will be submitted as required.

BENEFITS ANTICIPATED: (1) Replacement of deteriorated obsolete facilities with new modern equipment. (2) Annual sales of 414,000 tons of anhydrous ammonia and sales of additional chemicals. (3) Availability of 340 tons per day of high purity oxygen for future use. (4) Expansion possibilities and related benefits not subject to evaluation (Exhibit "H").

L. B. WORTHINGTON
PRESIDENT

MAR 15 1965
EXECUTIVE VICE PRESIDENT

ATTACHMENTS - Exhibits: A - Total Project Cost, B - Financial Effects, C - Commercial Effects, D - Estimate, E - Budget Information, F - Replacement in Kind, G - Progress, H - Related Benefits, I - Expansion, J - Auth. to Date

RECOMMENDED BY -		AUTHORIZED BY -	
APPROPRIATION COMMITTEE	OPERATIONS POLICY COMM.	EXECUTIVE COMMITTEE	BOARD OF DIRECTORS
DATE - Sept. 18, 1964	DATE - Sept. 25, 1964	DATE -	DATE -
	L. L. Lewis SECY.		SECY.