



Request For Capital
Expenditures/Retirements

REPORTING CLASSIFICATION

DATE APPROVED

JOB ORDER NO.

D1

10/30/81

OC-5565

DIVISION OR COMPANY

Organic Chemical Division

LOCATION

J.O. CONTROL POINT

Chicago Plant

097

JOB TITLE

Purchase and install water
treatment system for boilers.

SUMMARY OF AMOUNTS

DESCRIPTION	LOCAL CURRENCY	U.S. DOLLARS
ESTIMATED PROJECT COST		\$4430.00
DISMANTLEMENT EXPENSE		
TRANSFER EQUIPMENT		
GROSS AMOUNT FOR APPROVAL		\$4430.00
LESS TRANSFER EQUIPMENT		
LESS SALVAGE OR TRADE-IN ALLOWANCE		
NET CASH REQUIRED (GOF-3027)		\$4430.00

RETIREMENT DATA

ECONOMICS

REVISION DETAIL (GROSS AMOUNTS)

as called for in General Procedure Memo #3
Attachment C. (Attach calculations)

	AMOUNT		REV. #	DATE	AMOUNT	CUM. AUTHORIZATION
COST		ECONOMICS PERIOD	1			
DISMANTLEMENT		NET SALES	2			
LESS SALVAGE		NAT (PROFIT/SAVINGS)	3			
		TOTAL INVESTMENT	4			
		% ROI (ON TOTAL INVEST.)	5			
		INTERNAL RATE OF RETURN	6			
TOTAL - CHARGE RESERVE		PAYOUT OF NEW FIXED CAPITAL	7			

DESCRIPTION AND REASONS REQUIRED

Funds of-----\$4430
are requested to purchase and install an automatic chemical feed system to
treat the make-up water for the plant's two boilers.

*Closed
6/82*

SUMMARY OF ESTIMATED COST - Details on GOF-3027		ESTIMATE NO.	STARTING DATE one week after approval	COMPLETION DATE one month after approval	
ITEM NO.	DESCRIPTION	MATERIAL	LABOR	ENGINEERING	TOTAL
	See attached sheet				
NET CASH REQUIRED		4230	100	100	4430
ACCOUNTING TREATMENT		APPROVALS			
ITEM NO.	DEPR. RATE	NAME		DATE	
Dr. \$4,190 P. P. & E. (2A320)	7 1/4%	<i>R. Johnson</i>		10/23/81	
Dr. \$ 240 Expense as Incurred		<i>[Signature]</i>		10/30/81	
		<i>[Signature]</i>		10/30/81	
ACCOUNTING TREATMENT / ECONOMICS APPROVED BY DIV. CONTROLLER (CHECK BOXES)					
POST AUDIT PERIOD		POST AUDIT DUE DATE			
DATE 11/9/81		DIVISION PRESIDENT / DIRECTOR			

N14647



PROPOSED WORK AND COST

Funds of-----\$4430
are requested to purchase and install an automatic chemical feed
system to treat the make-up water for the plant's two steam boilers.*

Present Situation

The Chicago plant operates one of two 150 H.P. steam boilers, three shifts per day, seven days per week. The boilers are used for both heating and process steam requirements. Normally, one boiler is operated at a time on either high or low pressure, depending on the plants heating and process requirements.

The operating boiler is sampled once per day on the day shift, and the water analysis performed by the plants laboratory staff. Depending upon the laboratory results, the boiler water is then treated by mixing the various chemicals, and hand feeding them to the boiler all at once.

When the number one and two boilers were opened up for cleaning, and the annual inspection by both the City of Chicago and insurance company, it was found that the water side of the boiler had a 1/8" thick scale deposit on it. Manual clean-out could not remove this scale and the boiler had to be chemically treated to remove this scale.

Justification

The chemistry of the boiler water can be much more accurately controlled if the boiler chemicals are added continuously using a pump, as opposed to slug feeding. Since the plant makes and uses steam continuously, and make-up water is added continuously, it follows that the boiler water treatment chemicals should be added continuously. The above treatment system is recommended by Betz Entec, the plant's boiler water treatment consultants and Herman Bogot & Co., the plant's boiler service company. See attached letter.

The number two boiler was shut down and chemically cleaned this year at a cost of \$4000. The number one boiler will be cleaned in the same manner. The automatic chemical treatment system would greatly reduce the amount of scale build-up on the boiler tubes, save valves and fittings from damage due to the concentrated treatment chemicals, reduce energy cost by preventing scaling of the tubes and promote better heat transfer, provide better control of the chemical used and save on labor required to manually treat the boilers.

N14647.01

COMMERCIAL FACTORS

This order supports a plant budget for lead stabilizers as follows:

(K\$/lbs.)	<u>Sales</u>		<u>Marginal Income</u>		<u>POS</u>	
	<u>Lbs.</u>	<u>\$</u>	<u>\$</u>	<u>%</u>	<u>\$</u>	<u>%</u>
Actual all stabilizers 1980	7,296	5,618	2,451	43.6	1,782	31.7
Budget all stabilizers 1981	6,400	5,207	2,337	44.9	1,512	29.0
Actual all stabilizers - first eight months	4,936	3,674	1,397	38.0	1,378	36.4



Details of Proposal

Herman Bogot & Company will install an automatic chemical feed system, consisting of a 50 gallon chemical tank, agitator, feed pump, water meter and electrical controls. This system will feed chemical treatment to whichever boiler is running.

Production Factors

This proposal will not alter product quality or production rates.

Contingent Future Commitments

This proposal will not require additional funds to complete.

Alternatives Considered

Herman Bogot & Company installed the companies boilers and provides continued service on them. They will service the treatment system they install as they service the boilers, thus saving the company money. Installation will be done during normal servicing, thus no additional labor costs.

Risks

No operating risks are involved.

Concise Summary

Installation of an automatic chemical feed system to the boilers, will provide better control of the boiler water chemistry.

DETAIL SHEET

SHEET NO. 1		JOB ORDER NO.		DATE May 5, 1981	
COMPANY American Cyanamid Company		LOCATION Chicago			
ITEM OR CODE NO.	DESCRIPTION	EQUIPMENT OR MATERIALS	LABOR	ENG. MECH. SVC.	TOTAL
1	Automatic Chemical Feed System	2490			2490
2	Pipe fittings	400			400
3	Steel for ramp	1100	100	100	1300
4	Illinois Sales & Use Tax	240			240
		4230	100	100	4430

Mr. H. C. Gaffney

OC-5565
10/30/81
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BETZ
ENTEC

222 North Broadway, Joliet, Illinois 60435

December 22, 1980

Mr. Chester Dadko
American Cyanamid Company
4500 West 15th Street
Chicago, Illinois 60623

DEC 24 1980

Subject: Boiler Water Treatment Program

Dear Mr. Dadko:

During our meeting of December 18, 1980, we discussed several items which will serve to improve the water treatment program.

The first of these is the installation of a continuous blow-down valve which you can use to more accurately control the boiler water chemistry. Enclosed with this letter is a schematic which you can use as a reference for sizing this valve.

I have also enclosed a revised control chart which you should now begin using. Please note that the control chart defines the application of the various treatment chemicals.

We have agreed that once the Entec 784 arrives that you will begin feeding it to the No. 1 boiler and then after 30 days you will take this boiler down and inspect it. I want to be there at that time and will only require that you give me two or three days notice before hand.

There is another area which you can use to your advantage: the boiler chemistry can be much more accurately controlled if the boiler chemicals are added continuously using a pump as opposed to slug feeding them. A system to accomplish this is described in an enclosure. If you wish to look into this system, I recommend the Milton Roy Company at 711 West Devon, Park Ridge. The telephone number is 775-0525.

The recommendations made above will greatly improve your boiler water control. Since you make steam continuously and add makeup water continuously it follows that the continuous addition of your boiler water chemicals and continuous removal of the boiler water solids will accomplish a steadily dynamic system.

N14647.02

BETZ ENTEC INC.

American Cyanamid Company
Chicago, Illinois

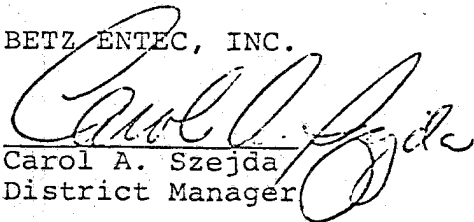
December 22, 1980

-2-

If you have any questions regarding these recommendations,
please do not hesitate to contact me.

Very truly yours,

BETZ ENTEC, INC.


Carol A. Szejda
District Manager

rt

cc: → Mr. H. C. Gaffney, Plant Manager
American Cyanamid Company
4500 West 15th Street
Chicago, Illinois 60623

PETZ

SPECIFICATIONS

MILTON ROY POLY-LINED DRUM-PAK

DESCRIPTION:

A self-contained packaged, chemical-feed system including a totally-enclosed Milton Roy controlled-volume pump, mounted on top of the tank. The suction piping and strainers are assembled and piped so that the system is ready to install upon arrival.

TANK:

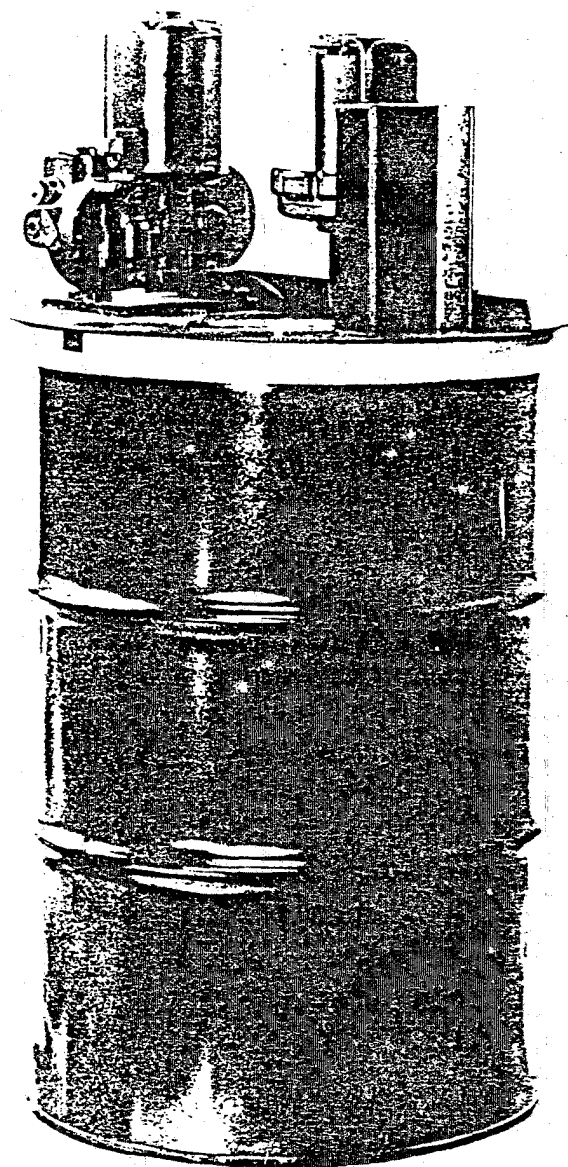
55-gallon, steel, with 3/16" rugged, lipped insert polyethylene liner. Liner will withstand continuous temperatures of 150°F. with surges of up to 225°F. This liner is replaceable on a separate basis.

The tank is equipped with a hinged-steel lid, split approximately 1/3-2/3 for convenient filling.

Rigid PVC suction piping, strainer, and agitator support are included.

PRICE:*

*Delivered with minimum freight allowed.



PICTURED WITH OPTIONAL AGITATOR

BETZ
LABORATORIES

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4500 West 15th Street
Chicago, Illinois 60623

DEC 24 1980

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N14647.04