NA 3006 REV. 11-69 ☆ 11-69

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REQUEST AND AUTHORITY FOR CAPITAL EXPENDITURES / RETIREMENTS

REPORTING CLASSIFICATION: Expense

DATE APPROVED: 9/14/81

JOB ORDER NO.: OC-5514

DIVISION OR COMPANY: Organic Chemical Division

LOCATION: Chicago Plant

J.O. CONTROL POINT: 097

JOB TITLE: Clean out number two boiler

SUMMARY OF AMOUNTS — DESCRIPTION	LOCAL CURRENCY	U.S. DOLLARS
ESTIMATED PROJECT COST		$4000
DISMANTLEMENT EXPENSE		
TRANSFER EQUIPMENT		
GROSS AMOUNT FOR APPROVAL		$4000
LESS TRANSFER EQUIPMENT		
LESS SALVAGE OR TRADE-IN ALLOW.		
NET CASH REQUIRED (GOF-3027)		$4000

RETIREMENT DATA	AMOUNT
COST	
DISMANTLEMENT	
LESS SALVAGE	
TOTAL - CHARGE RESERVE	

ECONOMIC JUSTIFICATION	6-YEAR AVG.
NET SALES	
NET SAVINGS BEFORE TAXES	
NET AFTER TAXES	
% ROI (ON TOTAL INVEST.)	
PAYOUT YRS.	

REVISION DETAIL (GROSS AMTS.) REV. #	DATE	AMOUNT	CUM. AUTHORIZATION
1			
2			
3			
4			
5			
6			

DESCRIPTION AND REASONS REQUIRED

Funds of ----------$4000
are requested to clean out the Chicago Plant's number two boiler of scale.

SUMMARY OF ESTIMATED COST - Details on GOF-3027 | ESTIMATE NO. | STARTING DATE | COMPLETION DATE: one mo. aft

ITEM NO.	DESCRIPTION	MATERIALS	LABOR	ENGINEERING	TO
1	Clean out #2 boiler	2829	1151	20	40(
	NET CASH REQUIRED	2829	1151	20	40

ACCOUNTING TREATMENT — ITEM NO.		DEPR. RATE
	Dr. $4,000 Expense as incurred	

RECOMMENDATIONS AND APPROVALS (CHECK)

NAME	REC.	APPR.
PROJECT SPONSOR: R. Johnson	✓	8/
[illegible]	✓	8
[illegible] 9/8/81		
[illegible]		
GENERAL MANAGER		
VICE-PRESIDENT		

ACCOUNTING TREATMENT / ECONOMICS APPROVED BY DIV. CONTROLLER [CHECK BOX(ES)]: ☒ ☐ DATE 9/10/81

POST AUDIT PERIOD: 3 YRS

POST AUDIT DUE DATE

DISTRIBUTION

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DESCRIPTION AND REASONS REQUIRED

Proposed Work and Cost

Funds of ----------$4000
are requested to clean out the Chicago Plant's number two boiler of scale.

Present Situation

The Chicago Plant has two 150 H.P. high pressure steam boilers. Only one boiler is operated at a time, depending on the plants' process and heating requirements. The plant operates three shifts per day, seven days a week.

When the number two boiler was 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 cannot remove this scale. If the boiler is to pass inspection this scale must be removed.

Inspection by the insurance company at the beginning of this year indicated a scale build up. It was decided to modify the chemical treatment to the boiler, but it is evident from the build-up of scale that this is not doing the job.

Justification

Scale deposit on the heating surfaces of the boiler act as insulator, retarding the flow of heat to the water, and causing the metal to become overheated, thus weakening it. Additional fuel must be used to overcome this insulating effect of scale, as much as 20% when the scale coating reaches 1/8 inch thick; the thickness of the scale on the number two boiler.

Commercial Factors

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

	Sales		Marginal Income		POS	
(k$/lbs.)	Lbs.	$	$	%	$	%
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 six months	3,685	2,735	1.028	37.6	1,048	38.3

Details of Proposal

The number two boiler will be chemically cleaned by a specialist under the supervision of Herman Bogot & Company and plant personnel. The chemicals which contain inhibitors to reduce any attacks upon the boiler metal will be brought in by a tank truck and circulated by a pump on the truck through the boilers' wet side. The solution will be analyzed during the operation to check the cleaning process and keep the chemical in contact with the boiler for the minimum length of time. The used chemical will be taken by the cleaner to an approved reclaimation plant. The boiler will be filled with a neutralizing solution and flushed with water. It will require one day, about 14 hours, to chemically clean the boiler. The preparing and closing up the boiler will be done while Bogat is here for regular weekly servicing.

Production Factors

This proposal will not alter product quality or production rates.

Contingent Future Commitments

Number 1 boiler will be opened after number 2 is put back in service. It is unknown at this time if any cleaning will be required.

A job order has been written for the installation of an automatic chemical feed system to treat the boiler water.

Alternatives Considered

Mechanical cleaning has been tried, but with very limited results. Due to the construction of the boiler, it is impossible to reach the majority of the scaled surfaces.

If left untreated, additional fuel required, as well as heat damage to the metal of the boiler.

Replace all tubes. Rejected as too costly and unnecessary.

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Risks

The operating risk involved is a possible leaking of a boiler tube seam or pipe. Herman Bogot & Company will be present to correct if this occurs.

Concise Summary

Chemical clean the boiler to increase efficiency and prevent damage.