



Interoffice Communication

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Date October 26, 1977

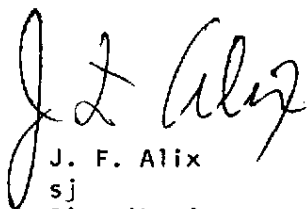
Subject Review Meeting - Vent Incineration Projects, Lake Charles
VCM Plant - October 20, 1977

Attendees

R. G. Gantz
G. L. Kreutzer
J. F. Petersen
R. E. Lehmkuhl
R. W. McPherson
J. F. Alix

D. E. Kidd
J. Pogue
R. D. Gamblin
J. A. Debernardi
J. Friend
J. E. Cearley

The purpose of the meeting was to review for R. E. Lehmkuhl the overall plans, schedules, and cost data for the Incinerator-related projects. The attached brief notes cover the items discussed and the primary action steps developed.


J. F. Alix
sj

Distribution:

Attendees
L. Copeland
J. C. Counter
W. E. Taber
D. M. Lewis
J. E. Van Zant
J. B. Hambleton

L. Harms
M. French
B. D. Ratliff
L. N. Vernon
J. D. Burns
R. J. Andersen
D. A. Kuhn

VVC 000012042

ACTION STEPS

- RWMcP - Schedule management review of Reagent Contract. Contract must be signed before Storage & Loading AFE can be submitted (Dec. 1, 1977).
- REL - Will contact Don Stanley for report on Reagent's financial strength.
- JAD - Prepare partial AFE to cover engineering and procurement for neutralization.
- JFP - Prepare detailed schedule for neutralization.
- DEK - Revise Incineration construction schedule, utilizing Control Estimate and allowing for normal construction delays. JFP will coordinate with construction on critical path scheduling.
- JAD - Review natural gas requirements for standby incinerator.

MEETING NOTES

A. Overall Plan

1) Facilities (JFA)

The incineration-related projects were diagrammed (Attachment 1).

2) Operating Plan (JAD)

The #1 Incinerator will burn all vents (except oxy vent), plus some light ends. Acid production will be about one-half of maximum rate.

The #2 Incinerator will be maintained in hot standby condition with natural gas.

Acid product will normally be upgraded to 31.5% (20°Be) by absorbing anhydrous HCl from Olin or oxy, and loaded to Reagent's tank trucks.

Backup acid disposal will be by shell neutralization.

3) Commercial (RWMcP)

We have agreement in principle with Reagent. We are drafting the final contract. (The target established is to have an executed contract by December 1, 1977.)

VVC 000012043

B. Schedules

1) Overall (RGG)

Ron Gantz presented the overall schedule worked up by PED/CED. (Attachment 2) CED is working against this schedule, and will further define as process designs issue.

2) #1 Incinerator

3) #2 Incinerator

Design (GLK)

The current schedule for bid packages was reviewed. This is one of the bases for the construction schedule. The philosophy will be to avoid any changes which could affect the design schedule.

Procurement (GLK)

All major equipment for both units (except spare exchangers) has been purchased. Much of the bulk materials has also been purchased.

Construction (DEK)

The current construction schedules (Attachments 3 & 4) were reviewed. These schedules are based upon manhours in the AFE estimate, and they do not provide for construction delays due to weather, etc.

These schedules will be revised to reflect manhours in the upcoming Control Estimate, and appropriate allowances will be made for "normal" delays.

John Petersen will coordinate any requirements for CPM scheduling, etc.

4) Neutralization

Process (RGG)

The drawings and data sheets have been issued, with the write-up to follow.

Mechanical & Procurement

All major equipment is being quoted. A contractor will be engaged for the pit design.

There will probably be no actual cash flow until late December, but commitments for design and procurement will be need within the next week or so.

The Plant will prepare a partial AFE to cover the early commitments.

A detailed schedule will be prepared by CED.

Environmental (JEC)

The only snag is on suspended solids (TSS). We had asked for 200 ppm, and the EPA is talking 30 ppm.

Our estimate is probably high for analytical reasons. Additional data is being obtained by the Plant, and it is expected that a satisfactory spec can be agreed upon.

The "worst case" would be the installation of a filter.

C. Costs

There was a Change of Scope for the #1 Incinerator to install Inconel boiler tubes. The incremental cost over carbon steel was \$297 M. No supplemental AFE was written at that time. The goal that was established was to complete the project within the 5% overrun allowance.

The currently known costs and variances are tabulated in Attachment 5. The expected underrun on Engineering cost largely covers the net overrun in other areas.

Similar data for the #2 Incinerator are tabulated in Attachment 6.

The Control Estimate will issue by November 1, 1977 and will provide a more complete basis for estimating completion costs. Based on information available at this time, there is no reason to request supplemental funds.

D. Additional AFE's

Attachment 7 summarized the additional AFE's to be written against the 1977 Budget Item 8-3. The very preliminary nature of these estimates is stressed, but we conclude that the necessary facilities can be covered by the budget item.

ATTACHMENT 7

ADDITIONAL AFE'S

	<u>ESTIMATE</u>	<u>TYPE OF ESTIMATE</u>
NEUTRALIZATION	\$ 1,370,000	PRELIM. EST.
TANKAGE & LOADING	\$ 875,000	ADAPTED FROM PRELIM EST.
ABSORBER	\$ 300,000	ORDER-OF-MAGNITUDE
HCL REC'Y PROCESS DESIGN*	\$ 150,000	FIRM
	<u>\$ 2,695,000</u>	
BALANCE	\$ 635,000	(25% of ESTIMATES)
TOTAL BUDGET	<u>\$ 3,330,000</u>	

* PARTIAL AFE

JFA
10-18-77

VVC 000012046

1 FA
10-18-77

VCM PLANT INCINERATION & DOWNSTREAM PROJECTS

VVC 000012047

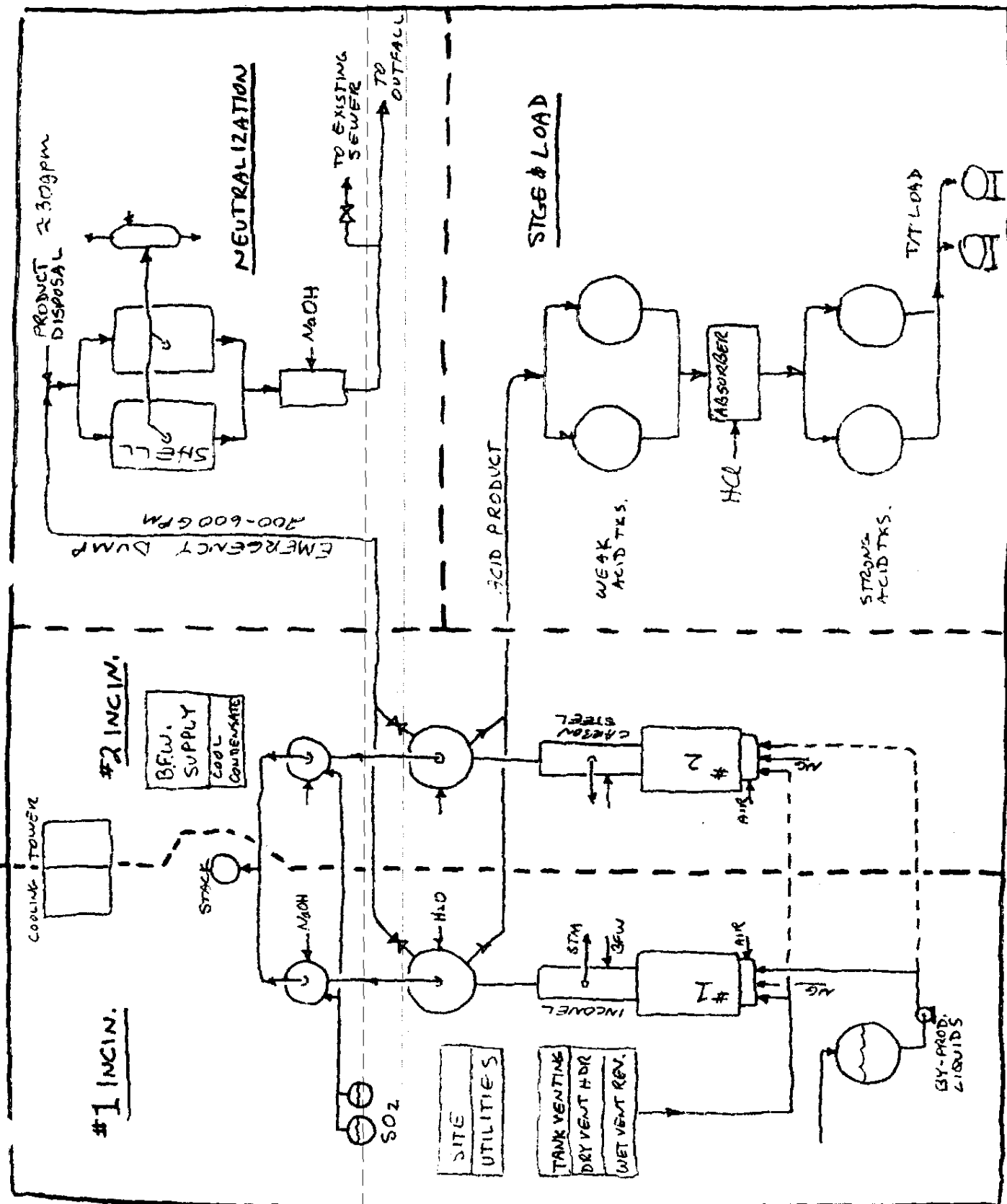


TABLE I
PROJECT SUMMARY
VCM ENVIRONMENTAL PROJECTS

<u>Project</u>	<u>Capital Cost, \$M</u>	<u>Process Design Issue Date</u>	<u>Type Cost Estimate and Date</u>	<u>Desired Start- Up Date</u>	<u>Comments</u>
1st Incin.	5,900	1/77*	1/77*	8/78	Litwin Design in Progress
2nd Incin.	3,300	6/77*	6/77*	10/78	Litwin Design in Progress
SO ₂ Addition	~ 50	10/7/77	Definitive Quality 12/1/78	8/78	Addition to Incin. Scope
Condensate for Plant Shutdowns	~ 130	11/1/77	Check Estimate 1/78	1/79	Addition to Incin. Scope. Included in 2nd Incin. AFE.
Direct Chlorination HO Drum	~ 50	11/16/77	Definitive Quality 1/1/78	10/78	Addition to Incin. Scope.
HCl Neutralization	~ 1,300	10/16/77	Definitive Quality 12/1/77**	8/78	Needs AFE Approval by 12/31/77.
HCl Storage & Loading	Rough Guess 1,000	12/1/77 Goal 1/1/78 Possibly	Start 11/1/77 Best Possible by 12/1/77	ASAP or 10/78	Needs AFE Approval by 12/31/77.
Standby EDC Steam Stripper	Rough Guess 100-300	9/77*	Definitive ASAP	10/78	Plant Process Design

VCM Fugitive Emissions ~ 80
COVER EXISTING SKEL PIT

NOTES:

*Completed.

**Start buying equipment 11/15/77.

VVC 000012048

late 1977

11/1/77

12-1-77

Project Now Shifted to
Don Sanders, PED.

10/07/77

E - Actual
 M - Estimated
 C - Last Time

E - ENGINEERING
 M - MATERIALS
 C - CONSTRUCTION

ATTACHMENT 3 CENTRAL ENGINEERING DEPARTMENT ESTIMATED COMPLETION SCHEDULE FOR AFE-210L 12M Vent Gas Treatment Unit

PAGE 1 OF 1
 DATE 07/14/77

JOB DESCRIPTION	1977												1978											
	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT									
SITE PREPARATION	E																							
	M																							
	C																							
CONCRETE D.U.A. (R.L. & ORINGS)	E																							
	M																							
	C																							
STRUCTURAL STEEL	E																							
	M																							
	C																							
EQUIP. ERECTION & PIPING	E																							
	M																							
	C																							
ELECTRICAL	E																							
	M																							
	C																							
INSTRUMENTATION	E																							
	M																							
	C																							
CENTRAL BUILDINGS	E																							
	M																							
	C																							
COOLING TOWER	E																							
	M																							
	C																							
PURGING (R.L. & ORINGS)	E																							
	M																							
	C																							
INSULATION (R.L. & ORINGS)	E																							
	M																							
	C																							

ATTACHMENT 4

EXHIBITS

PAGE 1 OF 1
DATE 1/1/77

[illegible]

VVC 000012050

ATTACHMENT 5

#1 INCINERATOR

AFE AMOUNT : \$5.6MM

	<u>CURRENT ESTIMATE</u>	<u>BUDGET (AFE)</u>	<u>UNDER <OVER></u>
<u>MAJOR EQUIPMENT (1002 PURCHASED)</u>			
EXCL. INCINERATOR	686,289 ^(a)	751,896	65,607
INCINERATOR	639,802	406,438	<233,364> ^(d)
FREIGHT & TAX VARIANCE	15,000	-	<15,000>
MISC. MAT'L ALLOW.	-	41,883	41,883
SUBTOTAL			<140,874>
<u>OTHER DIRECT COST FACTORS</u>			
SPECIAL PIPE	241,173	170,692	<70,481>
STRUCTURAL	139,938	88,734	<51,204>
PAVING	31,200	82,255	51,055
ADDENDA (c)	75,000	-	<75,000>
SUBTOTAL			<145,450>
<u>INDIRECT COST FACTORS</u>			
HOME OFFICE (MECH. DESIGN)	621,500 ^(d)	844,091	222,591
CONTINGENCY	511,056 ^(e)	511,056	-
SUBTOTAL			222,591
		TOTAL	<63,733>

(a) 1/2 COOLING TOWER SUBCONTRACT ASSIGNED TO #2 UNIT

(b) OVERAGE DUE TO INCONEL TUBES. SCOPE CHANGE \$297M; NO SUPPLEMENT

(c) ALLOWANCES FOR EFFECT OF PROCESS ADDENDA NOT COVERED IN OTHER CATEGORIES

(d) CURRENT BUDGET + CONTINGENCY

(e) RESERVED FOR FIELD COSTS.

ATTACHMENT 6

#2 INCINERATOR (EX. BFW SYSTEM)

	CURRENT EST.	BUDGET (AFE)	UNDER (OVER)
<u>MAJOR EQUIPMENT</u> (90% PURCHASED)			
ALL EQUIPMENT	887,466 ^(a)	929,091	41,625
FREIGHT VAR.	6,500	-	<6,500>
MISC. MATL	-	35,566	35,566
SUBTOTAL			<u>70,691</u>
<u>CHANGES</u> (·)			
D.C. K.O. POT (SCOPE CHANGE)			<50,000>
SO ₂ SYSTEM (SCOPE CHANGE)			<50,000>
ADDENDA ^(b)			<75,000>
			<u><175,000></u>
<u>INDIRECT COST FACTORS</u>			
HOME OFFICE	275,000 ^(c)	485,450	210,450
CONTINGENCY ^(d)	291,475	291,475	-
		GRAND TOTAL	<u>106,141</u>

(a) INCLUDES 1/2 COOLING TOWER SUBCONTRACT

(b) TO ACCOUNT FOR PROCESS ADDENDA NOT COVERED IN AFE EST.

(c) CURRENT BUDGET + CONTINGENCY

(d) RESERVED FOR FIELD COST.