

PLAINTIFF'S EXHIBIT

SH-1569

J	W	S	E	G	H	A	J	W	R	C	
S			G	M	P	L	H	S		K	
F	H	D	MANUFACTURING							F	I
N	E	G	SEP 10 1974							L	E
R	V	E	ORGANIZATION							S	
B	C	D	L	H	N	R	W				
C	M	A	G	D	E	S	H				
M		G		G	M	S	T				

DEER PARK MANUFACTURING COMPLEX - PLANT & SAFETY COMMITTEE
MINUTES OF MEETING
AUGUST 13, 1974

02-DPM-***

COMMITTEE MEMBERSHIP

Member

Alternate

C. A. Bland
W. B. Gloger
H. P. Graham
H. L. Herrod
D. L. Lively
F. G. Reitz

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-
J. R. Spradling*
-
W. F. Evans*

*Not in attendance

Safety Statistics for July 1974

Disabling Injuries This Month	2
Disabling Injuries This Year	6
Last Disabling Injury	7/29/74
Man Hours Worked Since Last Disabling Injury	12,942
First Aid Cases	123
Non-Disabling Doctor Cases	12

LAM 029924

ABS-026626

The Health & Safety Committee met in regular session at 8:00 a.m., August 13, 1974. A tour was made of the Feed Preparation and Refrigeration Units of the E Department. The meeting adjourned at 3:15 p.m.

Old Business

1. A review was made of recommendations to date this year and a memorandum was sent to parties from whom an answer was expected. A review will be made of minutes of meetings from the inception of this Committee to the end of 1973, to ascertain the status of all recommendations.
2. There was considerable discussion of the "Near Miss" memorandum regarding the incident brought about by the "Violation of Safety Orders". The frequent poor direction to craftsmen from operators on "precautionary measures" was highlighted.
3. There was discussion of the need for a Safe Work Permit when a Fire & Safety Permit was written. Ambiguity in this area will be clarified.
4. The make-up of the form used for Safe Work Permits at the Refinery was reviewed.
5. Need for more emphasis to craftsmen by Foremen on:
 - a. Welders keeping blinds in place when grinding and welding to protect adjacent personnel; and,
 - b. Keeping protective guards in place when using portable grinders.
6. At BA Unit, odors from the area of C-5302, C-5303 and C-5352 continue to be obnoxious.
7. Reports have been received from all operating departments to whom it was recommended in April that lighting surveys be initiated. "A" Department has made one, and all others are awaiting return of the light meter from being repaired (expected in August).
8. The emergency alarm recommended for the EPON-2 elevator has been installed.
9. Study and consideration is being given to the recommendation regarding more widespread supply of clothing for employees.
10. It was questioned if our Tinnners, Leadburners, and others who worked with lead at times should be given appropriate clinical testing. It was reported our Leadburner had been tested.

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11. Improved exhaust ventilation has been installed in the Brick-mason Shop.
12. There is still some concern that dust at the insulation band saw is not being completely collected. Similarly in the Carpenter Shop, it was surmised the table saw and band saw dust collectors are inadequate.
13. There was discussion once again on the time of Maintenance Safety meetings.
14. Use of a specific type of glass cloth instead of asbestos for welding spark containment was discussed. The material being utilized during this test period is in the Carpenter Shop. Whenever a suitable substitute for asbestos cloth is sanctioned, the latter will be discarded.
15. Concern was expressed that asbestos can be scattered when hauling pipe spools with a boom truck. Consideration should be given to removal and disposal of insulation before transporting.
16. Safety Order S-15 speaks to transportation of equipment into shops areas and shall be routinely observed.
17. The safety Department should communicate instructions recommended for operation of the salvage yard to Purchasing/Stores.

New Business

1. The near-miss incident involving the hydrolysis of the crude ECH in C tank farm was discussed.
2. A request has been forwarded for the examination of exhaust capacity at welding tables.
3. The subject of lack of ladder access to pipeways was discussed. It was observed that it is safer to install portable ladders or scaffolds at the point of activity rather than install fixed ladders which almost always result in craftsmen having to walk the pipeways.
4. A report had been received from an operator at the LPG racks that the racks were in poor condition, as were swing joints and piping.
5. An abnormal amount of burning of galvanized iron seems required in the Main Shops, and the question was raised as to why the increase. Concern was expressed for exposure to zinc fumes.

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6. Question was raised regarding shift change traffic in parking lot - possibility better if no traffic out south gate.
7. Garbage pick-up from Shop - not enough containers? Trash receptacles picked up in morning and not returned until afternoon.
8. Question status of new door south end of Machine Shop - also advisability of door in south side of Welding Shop.
9. Discussion of availability of locks for electrical lock-out.
10. Question confusion as to whether a crane was to be used indiscriminately when repairs were recommended by Inspection.
11. Question need for handrails on top of oil delivery truck.
12. Question if "permanent contractors" have copies of Safety Orders and are concerned with contractor employees. Do contractors hold regular safety meetings? (They do, and frequently on the same subjects as presented in Shell meetings.)
13. Desire expressed to receive copies of "near misses" and lost time injury reports at time of issuance instead of at Committee meetings.

Recommendations

- 8-1 The E Operating Department is providing a "reading table" in each control room in which books containing pertinent orders and instructions can be made readily available. It is recommended such a table be provided in each Maintenance Center to contain Safety Orders, General Plant Orders, etc., for the benefit of craftsmen.

UNIT TOUR

A tour was made of the E Department facilities at Feed Prep and Refrigeration/Fractionation.

1. Widespread use of steam hoses having a sign which stipulates "Fire Only", for thawing, etc. This practice is acceptable where it is being used for dispersion of small leaks until repairs are made, provided the lance is neither removed nor tied down; an example of the latter is at E-1010. The lance on the hose at E-1103 needs repair.
2. A steam hose, east of V-1020, needs replacement.
3. Hearing protection signs are peeling from stanchions and need replacing (N.E. Refrigeration).

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ABS-026629

4. Weeds need to be removed, tank walls around V-1021/V-1034.
5. Review need for "Goggle Area" signs at Feed Prep; signs warn of presence of caustic.
6. Water leak from 1½" hose reel at V-1107 creating algae slick.
7. Steam leak from hose S.W. of K-1006B creates walking hazard - need to rope off?
8. Hoses upper deck Refrigeration need racking.
9. Discard "step ladder" west of V-1022.
10. Hydrocarbon leak of CV-1030A, C₃ to E-1103.
11. Observed maintenance personnel working in "Goggle Area" without goggles.
12. H₂S-mercaptan odor east side of Feed Prep.
13. Water should be drained from diked area around V-1052.
14. Ladder positioned between E-1122 and E-1123 not tied off at top.
15. Safety chain not in place on C-1013 ladder.
16. No safety bars from platforms to ladders V-1016A, B, C; also north of T-1003.
17. Maintenance material on catwalk by C-1002.
18. Could find no protective clothing in Feed Prep area.
19. Scott Air-Pak bottles have been used in Feed Prep area; recheck to make sure they have adequate pressure.
20. Safety shower at T-1003 needs painting for quick location.
21. Need salt tablets at fountains in both areas.
22. Algae bad on upper decks and around north end of Refrigeration; apparently from water condensation on cold surfaces.
23. Lots of utility hoses in Feed Prep area, not in use but not coiled.
24. Need to explore means of excluding noise from Refrigeration control room when doors are opened.

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ABS-026630

25. Apparent need for relamping at ceiling over Refrigeration compressors.
26. It is presumed a lighting survey is to be conducted when measuring device is available.
27. Odor of hydrocarbons south end of Refrigeration where water goes to sewer from V-1124.
28. Housekeeping poor on upper decks at Refrigeration.
29. Insulator working in piperack at West 5th and North 25th, descending ladder while carrying bucket in one hand.
30. Chemical sewer trench south end of Refrigeration contains considerable oil.


F. G. Reitz

FGR/jd

cc: Houston - Chemical Plants & Refineries - General Manager✓
Houston - Chemical Manufacturing & Distribution -
General Manager
Manager Safety - Refinery
Deer Park Manufacturing Complex - Medical Director
News Bulletin Distribution
Committee Members
Bulletin Boards
File
Chron

LAM 029929

ABS-026631

file 1.3.2
August 7, 1974

02-DPM-XRT

Mr. R. E. Van Ingen:

This note summarizes the proposed coal burning steam generating project for the Deer Park Manufacturing Complex.

The construction of OP-III, the Penol Plant, and miscellaneous projects at Deer Park is projected to increase steam requirements by 1 MM lb/hr by 1979. Approval of other projects targeted for completion prior to 1983 will increase the steam demand by an additional 1.5 MM lb/hr. To satisfy these demands, the coal burning steam generating project was proposed and includes the following equipment:

1. Boilers capable of generating 3 MM lb/hr of 1,250 psi steam by burning low sulfur lignite or bituminous coal and low sulfur liquid fuel. Provisions will be provided for installation of flue gas desulfurization equipment to permit burning of high sulfur solid or liquid fuels. (As part of the residue reduction project, one or more of the boilers will be equipped with flue gas desulfurization.)
2. Turbo generators capable of generating 100 MW and designed to operate at 1,250 psi steam inlet pressure.
3. Coal handling facilities to permit receipt of 8,000 tons/day of coal by train. Rail yards, an 80,000 ton storage shed, and ash handling facilities for loading both trucks and railroad cars are also included.
4. Water treating equipment for boiler feed water.

Phase I of the project will satisfy the projected 1979 steam demand includes construction of 1 MM lb/hr steam generating equipment, electrical rating equipment consistent with the steam balance post Phase I and the metering for the entire project. Solid fuel handling facilities are not included since timing for coal burning is not yet defined. Flue gas desulfurization and a hot liquid fuel system are also excluded until residue reduction and location evaluations are completed.

W. M. Robb

D. L. Yesland

LAM 029930

ABS-026632

DLY -

Note Item #3,

Shouldn't we know
what is involved in
Phase I (and the
hotel project?)

Check with George West

Keith Handler is the
man to see

R. E. VAN INGEN

LAM 029931

ABS-026633

ANNUAL AFE STATUS REPORT -

FROM 7-24-74 TO 7-31-74

1 of 2

LOCAT	DESCRIPTION	AFE NO.	CAPT. M\$	* CLASS	DATE RCVD	TARG. DATE	STATUS	REMARKS
I. AFE'S APPROVED IN PAST WEEK:								
Grain Elevator	Energy Conservation Cooling Tower	74576	120	P	7-31	7-31	7-31	
Back	Liquid Fuel Burning - Phase II	05582	4500	MP	7-12	8-01	7-30	
Back	Facility to Generate 1 MW 480V, 3 Phase I	06663	1,500	PE	7-18	7-24	7-30	
Back	Cr. Oil Tanker Unloading System Modifications	06660	52	100%	7-16	7-24	7-30	Supplemental Funds.
Back	Cookhouse For HCU Fractionator Feed	05702	29	64%	7-22	7-29	7-30	Supplemental Funds.
Back	Modernization For Lubricants	76031	28,000	9%	6-25	7-25	7-30	
II. AFE'S TO MANAGEMENT FOR APPROVAL:								
Back	New 35 mep/50 cat Refractor (GR-4)	06659	4,900	PE	6-3	6-10	Tech	Tech holding AFE pending presentation to Mr. St. Clair.
III. AFE'S TO HEAD OFFICE DEPT'S FOR COMMENT:								
Grain	Liquid Fuel Burning Facilities	74557	985	P	6-5	6-18	Engr.	Grain estimating environmental regulatory requirements
Back	Residue Reduction	06773	2,100	PE	6-10	-	Tech	Justification under study.
Back	AIKY Plant Modernization	06665	2,000	PE	6-17	6-24	Tech	Under review.
Back	Swing Storage: cu Fuel/Gaso/Furn Oil	06552	3,050	MP	5-16	5-27	Ops	Reviewing need for "regard" thing. Being held pending identification of manpower to implement project.
Grain	AIKY Plant Revisions	74553	400	P-32%	6-18	6-27	Engr.	
Grain	Dist. 2/Kerosene Tractor Drainage Imp.	707	85	MP	6-24	7-10	Engr.	To be held pending further info. from Norco.
Grain	NEI Ethylene Column Drying Facility	710	52	P-32%	7-16	7-24	Engr.	To be sent to MP mgmt today prior to sending to chemical.
Grain	Spare Rotor Redlichnik Contact Pumps	706	90	MP	7-19	8-5	Engr.	Favorable comment memo received 7/25/74.
Grain	Effluent System Revisions	71015	335	O	7-27	8-14	Engr.	To be given to Liaison. Conserv. Dept. to be held pending determination of E.A. county water of chemical requirements.
Grain	Damg. Dist. Fuel Oil System	79761	300	MP	5-24	6-3	Engr.	Under review pending 7/25 decision on balance delivery.
Grain	Exp./Modern. Variable H.Hg	122	330	MP	1-15	1-28	Ops	

*C - OBTIGATORY, MP - MAINTAIN POSITION, EPRS - EMPLOYEE & PUBLIC RELATIONS & SAFETY, P - PROFITABILITY, PE - PROFITAB/EXPAN
TARIFFING P. BACK TO BE INDICATED IN THIS COLUMN FOR ALL PROJECTS CARRYING AN EARNING TOWER.

LAM 029932

ABS-026634

2 OF 2

FROM 7-24-74 TO 7-31-74

LOCAL	DESCRIPTION	A/E NO.	CAPT. M\$	* CLASS	DATE RCVD	TARG. DATE	STATUS	REMARKS
III.	A/E'S TO HEAD OFFICE DEPT'S FOR COMMENT:			(CON'D.)				
W.R.	ONE 5000 CFM Centrifugal Air Compressor	138	375	MP	7-16	7-24	Engc	Travelable comment memo being drafted.
W.R.	Aromatics Flare Gas Recovery	7137	250	P-3076	7-29	8-7	Engc	Under review.
ILS.	Acroshell Grease Facilities	7301-73	70	P-1978	7-30	8-07	Spurs	To be sent to mgmt. for approval today.
IV.	A/E TO BE RETURNED TO RECEIVING:							
DEER	Install Air Preheater on DU-1 Ethol/Retol Hts.	0686	580	P-4176	7-3	7-12	Engc	To be returned pending identification of power provided. This high earning

O - OBLIGATORY, MF - MAINTAIN POSITION, EPRS - EMPLOYEE & PUBLIC RELATIONS & SAFETY, P - PROFITABILITY, PE - PROFITAB/EXPA
EARNING POWER TO BE INDICATED IN THIS COLUMN FOR ALL PROJECTS CARRYING AN EARNING POWER.

LAM 029933

ABS-026635

SHELL OIL COMPANY

MFG. OPERATIONS		
JUL 22 1974		
LAG	WHT	HOG
RRA	DCL	PCB
JBH	GAM	PHC
ARL	IWS	JNL
CEB	EAH	RHT
RDT		HER
		KEZ
		JTG
		CJR
		EJR
		LPT
		CFT
		TAW
ZFB		
JAR		
MAT		
AMV		
BMW		

DATE JULY 19, 1974

FROM MANAGER - MANUFACTURING
ENGINEERINGSUBJECT COAL FACILITIES TO GENERATE
3MM LB/HR OF STEAM FOR DEER
PARK COMPLEX - PHASE I

The construction of OP-III, Phenol Plant and miscellaneous Manufacturing projects at the Deer Park Complex is projected to increase the need for new steam capacity at least 1MM lb/hr by 1979. Approval of other projects now targeted for completion prior to 1983 would increase the steam demand by an additional 1.5MM lb/hr of capacity. Unless alternate fuels are utilized, liquid fuels will have to be burned to generate steam at Deer Park due to the declining availability of natural gas. Approximately 26,000 B/D of liquid fuel will be required to cover 1979 steam loads and 33,000 B/D for 1983 projections. Of course, additional liquid fuel will also be required for process heaters.

In lieu of installing conventional gas/oil fired boilers at Deer Park, we propose a phased program to provide new coal/lignite fired steam facilities capable of ultimately generating 3MM lb/hr of 1,250 psi steam. In order to meet OP-III timing requirements, we request approval of the attached Phase I partial AFE for 1.5MM capital plus \$0.1MM expense. This AFE will cover the cost of preliminary engineering design for the entire project and commitment (subject to cancellations) for 1MM lb/hr of steam generating facilities. With this approach, the project will be further defined and estimated with a target date for AFE presentation in 10 months.

Our scope-type estimate indicates the total 3MM lb/hr project to cost \$175MM compared to \$38MM that would otherwise be expended for 1MM lb/hr of oil fired boiler capacity to meet only the 1979 expansion loads. Approximately \$25MM of the \$38MM expenditure is now included as part of the OP-III Venture and may be omitted if this project is approved. Project earning power based on the additional \$137MM investment for the coal fired boilers ranges from 17 to 20 percent depending on the type of coal used.

Phase I of this proposed project, to construct 1MM lb/hr of steaming capacity with future capability for firing solid fuels, is estimated to cost \$48MM. Electrical power generation consistent with the complex steam balance is also included in Phase I. Solid fuel handling facilities have not been included since timing for a primary coal source has yet to be defined. Flue gas desulfurization and a hot liquid fuel system are also excluded until residue reduction and gasification evaluations are completed. Upon approval of this partial AFE it is our intention to order the basic boiler facilities and to determine auxiliary equipment requirements during the next several months as these other associated projects become better defined.

Although Deer Park steam requirements through 1979 can be satisfied via Phase I, it may be necessary to proceed almost immediately with subsequent

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ABS-026636

phases to provide additional steam for projects currently under consideration. Dependent upon the type of coal available, the first 1MM lb/hr of new steam capacity should require 2M to 3M tons per day and in turn release approximately 5700 B/D of low sulfur liquid fuel. Similarly, the entire project (3MM lb/hr) should consume 6M to 8M tons per day of coal and release some 17 MB/D of oil. Sufficient plot space will be allocated to permit even further expansion of solid fuel utilization to fulfill essentially all steam requirements at Deer Park.

On the basis of burning low sulfur Texas lignite, at \$13.00 per ton FOB Deer Park, the total project (3MM lb/hr) earning power would be 20 percent. If lignite cannot be obtained and low sulfur Montana coal is used, the earning power would be 17 percent basis a coal cost of \$22.00 per ton. The cost per ton of coal has been based on returning an earning power to Mining Ventures equivalent to that earned by this project.

Manufacturing Technological are currently evaluating residue reduction (delayed coking and deasphalting) and the possibility of gasification. In addition to burning Montana coal and Texas lignite, the proposed boilers can be equipped to burn coke and DA asphalt if the asphalt is not consumed via gasification. Fuels of this specific type generally have not been utilized in large boilers; however, it is considered technically feasible to burn these fuels with proper equipment and cleaning and maintenance procedures. The high sulfur content of coke and DA asphalt will require the use of stack gas sulfur removal facilities; i.e., Shell Flue Gas Desulfurization Process (SFGD). Although the SFGD process has not been commercially applied for fuels of these types, we are reasonably confident that SFGD can be utilized satisfactorily. It is anticipated that further development to better define the facilities for burning these fuels will be required. Similar studies were conducted in the early 1960's in developing the CO furnace for cat cracker energy recovery. The residual reduction project will include funds to cover installation of the necessary facilities, including SFGD, to enable burning of coke or DA asphalt in one or more of the proposed boilers.

The proposed total coal fired boiler project would consist of the following equipment:

1. Boilers capable of generating 3MM lb/hr of 1,250 psi steam which are designed for burning low sulfur lignite or bituminous coal and low sulfur liquid fuel, with provisions for installation of flue gas desulfurization equipment which will permit burning of high sulfur solid and liquid fuels. As part of the residue reduction project, one or more of the boilers will be equipped with a flue gas desulfurization facility.
2. Turbo generators capable of generating approximately 100 MW and designed to operate at 1,250 psi steam inlet pressure and to exhaust to 650 and 200 psi systems. After addition of these generators, about one-half of the total Deer Park electrical requirement can be supplied by own generation.

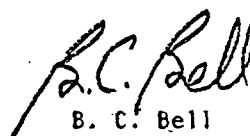
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ABS-026637

3. Coal handling facilities to permit receipt of 8,000 tons/day of coal by unit train including rail yards and storage shed adequate for 80,000 tons. Ash handling equipment will be provided to permit loading of ash into trucks or trains for sale or disposal.
4. Water treating equipment including demineralizers, deaerators, feed-water pumps, etc.

We believe that the attractive economics for the direct use of coal or lignite at Deer Park to replace large amounts of liquid fuel provide the incentive to proceed immediately with Phase I of this project. In addition, as the time required for commitment, delivery, and erection of a coal fired boiler installation is four and one-half years, it is essential that funds for mechanical design be approved as soon as possible in order to meet the completion of OP-III now targeted for early 1979.

Manufacturing Technological and Operations Departments concur with this project.


B. C. Bell

Attachment (original only)

cc: General Manager - Chemical Plants and Refineries
Deer Park Manufacturing Complex - Manager
Manufacturing Technological - Manager
Manufacturing Operations - Economics - Manager
Mining Ventures - Mining - Manager
Shell Chemical
General Manager Manufacturing and Distribution
Engineering - Manager
Shell Development
Corporate R & D - Engineering - Bellaire Research Center
Patents and Licensing - Mr. W. V. Medlin
Project Coordinator - OP-III

LAM 029936

ABS-026638