

Champlin E

INTER-OFFICE CORRESPONDENCE

GAY TO: Chester Strunk

CHILDERS

PERRFROM: R. E. Schneck

LOVELESS

OFFICE: C.C. Refinery

DATE: May 3, 1982

SUBJECT: 1981 Corpus Christi Refinery
Loss Control & Safety Survey

RETURN TO

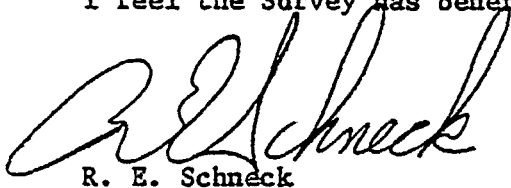
SAFETY & LOSS

CONTROL DEPT.

The attached report outlines our response to the ideas, suggestions, and recommendations resulting from the subject survey of the Corpus Christi Refinery in November 1981. As you will note, most items have been completed. Those remaining will be pursued until cleared.

I trust this report will suffice in finalizing your follow-up needs. Therefore, unless notified differently, no further communications on the subject of the 1981 Loss Control and Safety Survey will be submitted.

I feel the Survey has benefited our refinery.


R. E. Schneck

Attachment

Copies to: R. J. Carlton
J. W. Bryant
W. B. Duckworth
R. C. Duvall
J. F. Gay
M. M. Horseman
W. G. Miller
B. C. Poynter
B. D. Routh
D. L. Scharff
J. H. Tansey
W. A. Thompson
G. D. Whipple

REC

JUN 6

SAFETY & LOSS
CONTROL DEPT.

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CORPUS CHRISTI REFINERY
1981 LOSS CONTROL & SAFETY SURVEY

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DONALD PAGE - SAFETY

DOCUMENT
SECTION/PAGE

RESPONSE

RESPONSIBILITY

SCHEDULED
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1. Since the Safety Department has taken over the responsibility of inspection and maintenance of fire and safety equipment, the unit operators seem to have been relieved of their responsibility of performing weekly checks. This should be re-instituted thru a punch list program on a weekly basis.	Narrative (N) - page 2 I.D. 4	The operating personnel are testing the fire suppression system in each unit on a monthly basis. If fire extinguishers are found to be discharged the operating personnel will notify the safety department for its maintenance.	Operations and Safety	Continuous
2. An investigation to determine if the piperack supports at the west end of Alkylation Unit need fireproofing should be made.	N - 2 I.D. 5	An Engineering Work Order has been submitted regarding fireproofing on the west end of the Alkylation Unit.	C. E. Barker - Submit EWO	April 15, 1982
3. The electrical conduits and cable tray supports brackets at the west end of the Alkylation Unit look to have excessive corrosion. If this is the case, it could cause future problems.	N - 2 I.D. 6	The electrical conduits and cable tray supports brackets at the west end of the Alkylation Unit have been cleaned, primed and painted to eliminate corrosion. This was done during the recent turnaround.	Maintenance	Completed
4. Consideration should be addressed to the provision of additional fire protection for cooling towers such as area fire water monitors.	N - 2 I.D. 7	The areas are always being looked at throughout the plant where additional fire monitors can be installed for fire protection.	Operations and Safety	Continuous
5. Steam trap drops-nozzles for draining should be directed down, not straight out. <u>Supplemental Suggestions</u>	N - 2 I.D. 8	Steam trap drops-nozzles for draining are being corrected when found.	J. O. Cooper C. E. Barker W. H. Harris	Survey by May 1, 1982
6. Stop Program: This program has been discontinued and should be re-instituted.	N - 3 No. 3	Stop program will be offered to the new supervisors during the coming year.	Safety	1982
7. Safety Huddles: Discontinued, but a positive push for re-instatement of the program is under way.	N - 3 No. 4	Operations, Maintenance, Laboratory and Terminal departments have been contacted to reinstate the Safety Huddle program.	R. C. Duvall J. O. Cooper W. H. Harris D. A. Sadler G. D. Whipple	In effect by May 1, 1982
8. Laboratory: Serious consideration should be given to relocating the lab from its present location. The present exposures of the lab and lab employees are great and could be fatal in the future.	N - 3 No. 6	Laboratory: Due to the economics at this time the Laboratory is on hold.	Management	This item will be held at this time.

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DONALD PAGE - MAINTENANCE

DOCUMENT		RESPONSE	RESPONSIBILITY	SCHEDULED COMPLETION DATE
SECTION/PAGE				
9. The cooling tower for the BTX unit appears to be in need of attention from the plant electrical and structural inspection departments. The pumps look like they need a good scrub-down.	N - 2 I. D. 3	There is a capital improvement project under way to replace these pumps and turbines with more efficient deep-well motor-driven pumps. Construction of the new sub-station is underway.	J. H. Tansey	In progress
E. J. DAUGHERTY - OPERATIONS				
10. Logistics: The department had well maintained operating manuals. The attitude of the people I talked with indicated training is being well received. Water treater was not aware of any weekly safety inspection. He was aware of monthly inspections. Knock Engine Operator was not well informed on fire system (Halon).	N - 1	The Knock Engine Operators are now well informed on the fire system (Halon) in the Knock Engine Room.	Laboratory, Terminal and Safety	Complete
11. New Plant: No operators conduct any safety inspections themselves.	N - 2	Operators conduct safety inspections as well as operational inspections on a daily basis.	C. E. Barker J. O. Cooper	Ongoing
12 a. Old Plant: No fire systems are included in false ceilings. b. No weekly inspections are done.	N - 3 N - 3	No fire systems are required in false ceilings in control rooms or other buildings. Fire extinguishers are strategically located in all buildings in case of an emergency. See Page 2, No. 11.	N/A	N/A

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TOM WILLIS - ENVIRONMENTAL REVIEW

DOCUMENT	SECTION/PAGE	RESPONSE	RESPONSIBILITY	SCHEDULED COMPLETION DATE
1) a. Housekeeping at the environmental facilities need improvement in the following areas: b. The walkway between the aeration basin is damaged, creating a safety hazard to people walking in this area. c. A slippery area exists near the DAF due to a pump seal leak. d. Storage drums under flare.	N - 2			
	5. a)	The walkway in question has been repaired.	Environmental	Complete
	5. b)	The pump seal leak has been repaired.	Environmental	Complete
	5. d)	The drum storage area in question will be moved.	Maintenance	June 1982
H.E. CHILDERS/R.A. LOVELESS - CORPORATE SAFETY 14 Area 90 Tank Farm a. The diesel driven fire pumps are provided with transparent filter bowls on the fuel system for removal of condensation, sediment, etc. from the incoming fuel. When the pumps were painted the filters also received paint prohibiting visual inspection of the filter medium. These should be cleaned to allow visual confirmation of the fuel filter conditions. b. A 350# wheeled fire extinguisher is located inside the transfer pump area adjacent to the pumps. In the event of a spill and possible fire situation, access to this unit would be substantially limited. A similar curbed area as in Tank Farm 91 should be considered or the extinguishing unit should be relocated outside the diked area. This unit should also have a hydrostatic test performed on the nitrogen cylinder to comply with the five year NFPA requirement. c. The foam trailers located in this area are equipped with a minimal amount of fire hose that does not appear adequate for the initial demands of a fire emergency. An evaluation should be made to determine the material requirements necessary to provide adequate protection.	N - 1 A. 1	Area 90 Tank Farm Work order has been written to correct filter bowls on the fuel system.	Terminal and Safety	Complete
	A. 3	A work order has been written to move the 350# wheeled fire extinguisher outside the transfer pump area.	C. W. Harris	May 1982
	A. 5	The foam trailers have been evaluated for the necessary amount of hose and we are satisfied with the amount on the trailers in case of emergency.	Safety	Complete Based on what?

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W.R. CHILDERS/R.A. LOVELESS - CORPORATE SAFETY	DOCUMENT SECTION/PAGE	RESPONSE	RESPONSIBILITY	SCHEDULED COMPLETION DATE
14. (Cont'd) Area 90 Tank Farm:				
d. Barricade posts should be installed adjacent to the east-west drainage ditch near the foam trailer shed to prevent vehicles from driving off embankment.	N - 2 A. 8	A work order has been written to install barricade posts to the east-west drainage ditch in question.	C. W. Harria	June 1982
15 Old Plant Areas:				
a. It was noted on our inspection of the MTBE construction project that the LPG spheres were located inside a common dike with storage facilities for liquid hydrocarbons with no separation wall. This should be re-evaluated to determine the necessary provisions for compliance with NFPA No. 30, Section 2-2.2.G. The Corporate Loss Control staff would again like to offer our assistance in these areas at any time.	N - 2 B. 1	The location of these LPG spheres at the MTBE construction project has been evaluated and the necessary provisions for compliance with NFPA No. 30, Section 2-2.2.G will be done.	Project Group	Complete
b. The two oscillating monitor nozzles and their control valves located inside the dike for Tank 1029 for protection of the east-west pipe rack should be located outside the dike to prevent impingement from a potential spill fire.	B. 2	The two oscillating monitor nozzles and their control valves were installed during the Fluor construction with Corporate approval and it is not economically feasible to remove these to a different location.	N/A	N/A
c. Several foam lines providing protection for Tanks 1024, 1025 and 1026 are in a severe state of deterioration and should be replaced on a priority basis.	B. 5	Foam lines throughout the Corpus Refinery area are being replaced on a regular basis. Due to the economic picture I am sure some of these will not be replaced at this time.	Maintenance	In progress
d. One of the foam chambers for Tank 1025 is lacking an aeration chamber rendering this particular system ineffective in the event of a fire.	B. 6	The aeration chamber on Tank 1025 has been installed.	Maintenance	Complete
e. The deluge system protecting the pumps and fan coolers in the #4 Platformer should be examined closely in respect to effectiveness and reliability. Piping which is too small to deliver the necessary flow for protection is utilized throughout the facility and some locations are missing sprinkler heads. Consideration should be given to replacement or upgrading of the present system.	N - 3 B. 7	Piping for the #4 Platformer was to have been included in the MTBE expansion. Due to economics this will probably not be done.	Maintenance	1983 Budget

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DOCUMENT SECTION/PAGE	RESPONSE	RESPONSIBILITY	SCHEDULED COMPLETION DATE
W. E. GILLMERS/J.R.A. LOVELESS - CORPORATE SAFETY 15 (Cont'd) Old Plant Areas: f. The deluge system piping for the #4 Platformer cooling tower is in a severe state of corrosion and should be repaired. It was also discovered that the control valve for this system was not operational therefore negating the intent of the system.	The deluge system at the #4 Platformer cooling tower should be removed and installed on the fire water system in this area. Install fire monitor.	Engineering	Complete
g. Control of motorized equipment throughout the tank farms continues to be a problem in some areas with several instances being observed of equipment entering diked areas without adequate determination of possible flammable materials present. A total positive control program should be established in all areas with a potential for flammable atmospheres.	The program to eliminate motorized equipment throughout the tank farm has been installed by the Terminal department. This program seems to be effective.	W. H. Harris and Area Supervisors	Continuing program
h. Chromate storage tank 3771 has in the past and presently continues to leak onto the mat beneath the valves and tap. Subsequently, this material drains into the roadway gutter and away from the area with no indication of control.	Chromate storage tank 3771 has been corrected.	Maintenance	Complete
i. The 1 1/2" fire hose stored in the hose box adjacent to hydrant 30-24 is pressured with water while still folded inside the box.	Fire hose in hose boxes has been corrected.	Maintenance and Safety	Complete
j. Efforts should resume to provide water weir or sprinkler protection for all spheres and horizontal storage tanks containing isobutane, mixed butane, and alky-feed north of the alkylation unit. Due to the close proximity of these vessels to each other and surrounding units a fire in this area would create a serious fire impingement potential necessitating massive cooling efforts.	Engineering work orders have been written and due to the economics are being placed on hold.	Engineering	1983 Budget

Follow up for effect

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H.E. CHILDERS/R.A. LOVELESS - CORPORATE SAFETY	DOCUMENT SECTION/PAGE	RESPONSE	RESPONSIBILITY Terminal and Safety	SCHEDULED COMPLETION DATE
16 New Plant Areas: a. The water jacket induction heater for the fire water pump #29 was not operational which could result in engine damage when the pump is started.	N - 4 C. 1	Complete.		Complete
b. The #30 diesel fire pump ran continuously during our survey rather than during emergency situations despite the installation of an additional jockey pump to maintain system pressure. The original recommendations made by the Corporate Loss Control staff relative to these pumps should be reviewed and initiated to upgrade this installation.	N - 4 C. 2	The diesel fire pump is being re-evaluated to control this situation. The new jockey pump installed at Corporate's request does not alleviate the situation.	N/A	N/A
c. Several of the signs located on post indicator valves for control of sprinkler systems have deteriorated to the point that they are no longer legible and should be repainted.	N - 4 C. 4	These signs have all been replaced.	Maintenance	Complete
d. While slings and wire rope inspected on cranes and cherry pickers were found to be in excellent condition several electrical carts have severely damaged chokers in them which should be discarded to prevent accidental use.	N - 4 C. 6	Slings and wire ropes that are severely damaged are discarded.	Maintenance	Continuous
e. The sulfuric acid and caustic tank truck unloading station located on the north end of 60 block is so constructed to defer all spillage toward the roadway creating both an environmental and personal injury problem. Consideration should be given to placing a curb on the outermost edge of this area to divert any spillage to a common drain and sump area.	N - 4 C. 7	An Engineering work order has been written and due to economic conditions will be evaluated.	Engineering	1983 Budget

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DOCUMENT SECTION/PAGE	RESPONSE	RESPONSIBILITY	SCHEDULED COMPLETION DATE
17. Maintenance: a. The diesel driven fire pumps are provided with transparent filter bowls on the fuel system for removal of condensation, sediment, etc. from the incoming fuel. When the pumps were painted the filters also received paint prohibiting visual inspection of the filter medium. These should be cleaned to allow visual confirmation of the fuel filter conditions.	See Page 3, No. 14 a.		
b. The weed control program should be continued in the tank farm areas to eliminate a fire exposure potential.	To date we have allowed weeds/grass to grow inside tank compounds. This is moved periodically. Recently it was decided not to let grass grow inside tank dikes. We are presently working out a control program with our "weed control" contractor. We will advise when we have program implemented. See Page 4, No. 15 c.	Maintenance & W. H. Harris	In progress
c. Several foam lines providing protection for tanks 1024, 1025 and 1026 are in a severe state of deterioration and should be replaced on a priority basis.	See Page 4, No. 15 d.		
d. One of the foam chambers for Tank 1025 is lacking an aeration chamber rendering this particular system ineffective in the event of a fire.	We have accumulated drums of waste solvent and paint near our sandblast yard. I have instructed Bob Miller and Johnnie Pope to dispose of them properly through Davis Scharff. See Page 6, No. 16 a.	Maintenance	Complete
e. Several drums containing waste solvent and paint material located in the sandblasting area should be properly disposed of on a priority basis. Several of the drums have severely deformed heads apparently caused by overpressure.	See Page 6, No. 16 d.		
f. The water jacket induction heater for the fire water pump #29 was not operational which could result in engine damage when the pump is started. g. While slings and wire rope inspected on cranes and cherry pickers were found to be in excellent condition several electrical carts have severely damaged chokers in them which should be discarded to prevent accidental use.			

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DOCUMENT		RESPONSE		SCHEDULED	
SECTION/PAGE				COMPLETION DATE	
W. OTT					
18. Maintenance:					
Another concern is that the "Safety Huddles", which were receiving emphasis one year ago, have been eliminated or reduced in the Process and Maintenance areas.		See Page 1, No. 7.			
19. LOSS CONTROL SURVEY - MAINTENANCE					
a. Refinery needs to review overall instrument and plant air supply. Many leased, expensive portable air compressors in plant as back-up.	Pg. 3 C. 4	Since this report we have installed two new plant/instrument air compressors in Area 63.		Engineering	1983 Budget
b. Recommend central reclaim area adequately equipped and staffed under warehouse control.	Pg. 4 3	Study feasibility to repair on cost basis.		Maintenance	N/A
c. Installation of a foot guard at the base of the 100 ton press in the machine shop area.	Pg. 26	A Work Order has been written to install a foot guard under the hydraulic press.		Maintenance	June 1982
d. Relocate air and electrical supply to the machine shop work benches, present location is a possible tripping hazard.	Pg. 26	A Work Order has been written to relocate air/electric supply to work table in the Machine Shop to eliminate tripping hazards.		Maintenance	Complete
e. Very impressed with the vibration monitoring program, records are well maintained and updated. Recommend program is expanded to all of the rotating equipment.	Pg. 28	I am pleased to see that Dave Braden was impressed with our Vibration Monitoring Preventative Maintenance Program.		N/A	N/A

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DOCUMENT		RESPONSE		SCHEDULED	
SECTION/PAGE				RESPONSIBILITY	COMPLETION DATE
20. LOSS CONTROL CONSIDERATIONS - SAFETY	a. Fire pumps.	Pg. 51 Item 3	At the request of Corporate Safety the rated speed on the fire pumps had been raised to 1750 RPM.	Maintenance	Completed
	b. Automatic sprinklers	Pg. 52 Item 5(d)	The Vacuum Unit now has a deluge system over all pumps.	Engineering	Completed
SAFETY & LOSS CONTROL SURVEY - OPERATIONS					
21 a. Refinery needs to review overall instrument and plant air supply. Many leased, expensive portable air compressors in plant as back-up.		Pg. 3 C. 4	See Page 8, No. 19 a.		
b. Process Area: Housekeeping excellent. Need to eliminate oil trap near No. 1 cat cracker.		Pg. 4 A. 7	The oil trap is to be discontinued and the old Crude Unit and old Cat Cracker blow down system is to be revamped and tied into the old Cat Cracker flare during a planned old Cat Cracker turnaround this year. The oil trap will be eliminated after its service is discontinued.	Maintenance	October 1982
c. Control Rooms: Housekeeping inside and outside very good except for one location. This is outside cumene control room where there is considerable material stacked.		Pg. 4 A. 8	Good housekeeping will be maintained in the area next to the Control Room, also throughout the unit.	R. C. Duvall C. E. Barker	Immediate and continuing
d. Fireproofing - Pipeway supports: Some improvement needed particularly in older areas.		Pg. 5 D. 2	Many pipe supports in the old Crude Units do not have fire proofing. Reviews in the past indicated the cost of fire proofing was excessive versus the risk involved. A current evaluation should be made by the Technical Department.	C. E. Barker - EWO	April 15, 1982
e. Flammable Liquid Pumps		Pg. 6 E.	The Operations, Safety and Technical Departments will review and recommend to the Plant Manager where additional deluge systems should be added.	R. C. Duvall C. E. Barker J. O. Cooper for EWO	May 15, 1982

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SAFETY & LOSS CONTROL SURVEY - OPERATIONS		DOCUMENT SECTION/PAGE	RESPONSE	RESPONSIBILITY	SCHEDULED COMPLETION DATE
21. (Cont'd.) f. Near Misses. g. Halon Fire System. h. Check Lists. i. Blowdown Facilities. j. Shift Logs.		Pg. 12 1.	More emphasis will be given to investigating near misses.	All departments	Continuous
		Pg. 16 C.	Consideration of Halon fire protection in the Alky-Cumene Control Room will be pursued with Operations, Safety and Technical Departments.	R. C. Duvall C. E. Barker for EMO	April 15, 1982
		Pg. 18 3. c.	Check lists have been established both in the Training Department and at the Operating Superintendents' offices.	Training and Operations Departments	Complete
		Pg. 19 4. a.	The Crude Unit blow down is to be tied into a new blow down drum and into the old Cat Cracker flare. Construction is planned for completion this year.	Maintenance	October 1982
		Pg. 23 14.	The daily initialling of Operator and Supervisor Logs will be put into effect.	R. C. Duvall C. E. Barker J. O. Cooper	May 1, 1982
22. SAFETY & LOSS CONTROL SURVEY - TERMINAL a. Vehicle Traffic. b. 2000 Tank Series Area. c. Storage drums under flare.			See Page 5, No. 15 g. As you know we were repairing Tank 2004 during the time of the audit, so some of the drums, traffic, etc. of this area was the result of this work; however, the area is used as a storage area for blinds. Guy and I are looking for another storage area which will reduce traffic required to retrieve needed blinds. See Page 3, No. 13 d.	W. A. Thompson	Space in plant limited.

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SAFETY & LOSS CONTROL SURVEY - TERMINAL		DOCUMENT SECTION/PAGE	RESPONSE	RESPONSIBILITY	SCHEDULED COMPLETION DATE
22. (Cont'd.)					
d. Oil on ponds.			We have recently undertaken an effort to remove this oil and hope to have it recovered by the end of summer. See Page 7, No. 17 b.	W. H. Harris	Continuing program
e. Weed and trash control.					
23					
a. SAFETY & LOSS CONTROL SURVEY - TECHNICAL SERVICES					
23 a. The electrical conduits and cable tray support bracket at the west end of the Alky Unit looks to have excessive corrosion.			See Page 1, No. 3.		
b. Recently safety huddles have been discontinued.			See Page 1, No. 7.		
c. Serious consideration should be given to re-locating the lab from its present location. The present exposures of the lab and lab employees are great and could be fatal in the future.			See Page 1, No. 8.		
d. Overall electrical system should be reviewed. Review should include current status of CP&L Industrial Station at Buddy Lawrence Drive, underground lease for this station etc.			Engineering to summarize plans for electrical system.	P. E. Taylor	May 1982
e. Refinery needs to review overall instrument and plant air supply. Many leased, expensive portable air compressors in plant as back-up.			See Page 8, No. 19 a.		
f. Main pipeline support between plant office and parking lot needs rehabilitating.			Engineering to recommend for future capital programs.	Engineering	1983 Budget
g. Too much fouling on water side (Cooling Water System).			Engineering to expedite AFE.	P. E. Taylor J. W. Rysavy	AFE to be completed by May 15, 1982

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SAFETY & LOSS CONTROL SURVEY - TECHNICAL SERVICES	DOCUMENT SECTION/PAGE	RESPONSE	RESPONSIBILITY	SCHEDULED COMPLETION DATE
23. (Cont'd.) h. Comment on use and condition of shunts installed on floating roof tanks. Unknown. Technical Department to pursue. i. Are shunt strips checked for impedance/continuity? j. Contractors are required to hold safety meetings and Champlin's project people attend those meetings. k. Maintenance Department inspects tank vents and flame arrestors twice a year. Inspection Department has a program to U/T tank wall thickness every 18 months. l. Suggest a survey is performed to review the present and future needs for fireproofing of the older units.		Engineering to evaluate shunts on tanks. Engineering to check for continuity. Initiate contract safety meetings. Inspection Department to evaluate. Engineering to evaluate fireproofing of older units.	Engineering Engineering J. M. Snyder R. W. Arey L. N. Brandon	June 1982 June 1982 In progress June 1982 June 1982

Follow up

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