CHEMICALS INDUSTRIES

INTEROFFICE / LAKE CHARLES

TO Jack Hayes

DATE April 15, 1971

FROM Don Metzger

SUBJECT Summary of Per-Tri Plant Vessel External Inspections

The following list is a summary of the major adverse conditions found in the external inspections made in March and April, 1971, by Melvin Broussard and Bill Woolsey.

A. Columns, Reactors, Kettle

1. No. 1 P/T Reactor (SAC 59-1). The support beams have a heavy rust layer and the reactor insulation is cracked and peeling. The handrail also has heavy rust.

Blasting and painting and necessary on all this.

2. No. 2 P/T Reactor (SAC 59-2). Same observations as for No. 1 Reactor.

3. No. 3 P/T Reactor (SAC 59-3). The handrail has a heavy rust layer.

4. No. 4 P/T Reactor (SAC 59-4). The support beams have a heavy rust layer and the reactor insulation is cracked. The 1" Dowtherm nozzle on the northeast side has a very heavy rust layer. INSIDE FOOTING, CENTRIFIX, INSIDE BEAMS @ CATS

ANCHOR BOLTS UNDER CENTRIFIX

5. No. 5 P/T Reactor (SAC 59-5). Some observations as on No. 1 Reactor. HANDRAIL

6. Per-Tri Still (SAC 67-1). The insulation is pulling away at some points, and paint is cracked and peeling. Nozzles have light rust. CRACKED PAINT ON SKIRT.

7. Heavies Still (SAC 67-3). The insulation is cracked and is pulling away from the still at some points. It is also distorted at the bottom manway. CRACKED PAINT ON SKIRT

Need touch-up repair mix

8. Per Still (SAC 67-4). The insulation is cracked and is pulling away from the still at nozzles, manways and support rings. Nozzles have light rust.

9. Tri Neutralizer (SAC 67-5). The concrete foundation and grout are cracked all around the base. The safety valve has no inspection tag and is very rusty inside. This valve should be removed and checked.

W.O. with to REGROUT REMOVE OLD PAINT & REPAINT

SL 049852

10. Per Neutralizer (SAC 67-7). The shell has heavy corrosion and a leak exists on the east side above the first landing. The SRV has no tag and is full of rust. The SRV should be removed, cleaned and tested. The shell should be further checked for thickness.

11. Per Wash Column (SAC 67-11). The bottom nozzle has a heavy rust layer. ABOUT 1" PENCIL

12. Dopp Kettle (SAC 70-518). Product appears to be leaking into insulation at top and has deteriorated the insulation. The SRV has no tag. The SRV should be removed, inspected and tested.

B. Tanks

1. No. 1 Organic Vaporizer Drum (SAC 60-514). The heads, shell seams and nozzles have heavy rust, while the support steel has light rust. The insulation is damaged and the paint is essentially gone. The vessel should be checked for thickness at several points. — Do during conversion

2. No. 2 Organic Vaporizer Drum (SAC 60-516). The nozzles and support steel are heavily rusted. The seal coat on the insulation is punctured. The vessel should be checked for rust under the insulation. "

DONE BY BEST DURING EXPANSION

3. No. 4 Organic Vaporizer Drum (SAC 60-578). The shell, nozzles and support steel have a heavy rust layer. The insulation is punctured and broken around the flanges. The vessel should be checked for thickness at several points. "

4. No. 5 Organic Vaporizer Drum (SAC 60-732). The heads, shell, seams, nozzles, and support steel have heavy corrosion. The insulation is cracked and broken. This vessel should be checked for thickness at several points. "

5. No. 1 Organic Settling Drum (SAC 60-825). The shell has heavy rust under the insulation, and the nozzles have a heavy rust layer. The insulation is cracked and torn in several places. The vessel should be checked for thickness at several points. "

6. No. 2 Organic Settling Drum (SAC 60-826). The nozzles of the vessel are heavily rusted, while the support steel is lightly rusted. The insulation is cracked on the lower section. The shell should be checked for rust under the insulation. " —

DONE BY BEST ON EXPANSION

7. No. 4 Organic Settling Drum (SAC 60-592). The heads, shell, seams and nozzles are heavily rusted. The insulation is cracked and broken around the top and the manway. The vessel should be checked for thickness at several points. Corrosion on outside, looks bad, probably no other areas.

8. No. 5 Organic Settling Drum (SAC 60-827). The shell is heavily rusted around the manway. The insulation is cracked and peeling and the paint is essentially gone. The shell condition should be further checked.

9. No. 1 Steam Drum (SAC 60-520). The SRV has no lead tag. The support steel is lightly rusted and the insulation is cracked. The SRV should be tested and tagged.

10. No. 2 Steam Drum (SAC 60-54). The SRV is separated from the drum by two block valves; one is chained open, the other is not. The nozzles have light corrosion and the insulation is cracked. The SRV should be retested.

11. No. 2 Dowtherm Vent Condensate Receiver (SAC 60-476). The shell and nozzles are heavily rusted. Shell thickness should be checked.

12. No. 1 Phase Separator (SAC 60-1010). The steel flange on the head is heavily rusted, while the steel flanges on the nozzles and support steel have light rust.

13. No. 2 Phase Separator (SAC 60-478). The steel flanges on the heads, steel flanges on the nozzles and all valves are severely rusted. The top head is cracked and leaking.

14. No. 4 Phase Separator (SAC 60-1012). The steel flanges on the heads and nozzles, and support steel have been severely rusted.

15. No. 5 Phase Separator (SAC 60-729). The steel flanges on the heads and nozzles, and support steel are severely rusted. The vessel is leaking at the 3" nozzle on the west side, 3" nozzle on south side and top head flange at south side.

16. Drying Still Feed Tank - east (SAC 60-479). The heads, shell, seams and nozzles are heavily rusted and pitted. The nozzles and overhead pipes are leaking. The foundation has been attacked by the acid spills. The paint is cracked and peeling.

17. Drying Still Reflux Drum (SAC 60-1013). The nozzle flanges and support steel have heavy rust. The bolts on the manway flange are extremely rusted and should be replaced.

18. Per-Tri Still Feed Tank (SAC 60-472). The top head is leaking at the north side and the lower manway has material leaking from the weephole. The nozzles are lightly rusted. The vessel should be internally inspected to determine the cause of the manway leak, and the necessary repairs made to stop all leaks.

19. Tri Shipping Tank (SAC 60- ). The shell is heavily rusted under the southeast anchor ~~bolt support bracket~~, manufactures nameplate, and ~~handrail brackets~~. The threaded nozzles on top are lightly rusted.

Do during conversion

After Conversion make sure Sac tag is still on.

3-way valves

"

Touch-up paint

will be taken out of service

"

"

"

check repaint

TOP HEAD & FIBERCASTED AND SPOT PA.

least 1 paint

20. No. 3 H.P. Stab. 113 Tk. (SAC 60-652). The shell has a heavy rust pit above the 4" drain nozzle. touch-up

21. D. G. Per Stab. Tk. (SAC 60-501). The nozzles are lightly rusted and the BS & B vent lid is wired closed. remove + replaced

22. Condensate Storage Tank (SAC 60-488). Two of the 2" top nozzles are heavily rusted, and the insulation is cracked on top. repair

23. Dopp Kettle Surge Tank (SAC 60-509). The tank bottom at the foundation is heavily rusted, and the nozzles are lightly rusted. "

24. Brine Storage Tank (SAC 60-473). Heavy rust exists under the top cover. The shell, seams and nozzles have light rust. The paint is peeling. blast + paint

25. Brine Head Tank (SAC 60-513). The heads, shell, nozzles and support steel are severely rusted. The insulation is cracked and peeling. "

26. Ammonia Storage Tank (SAC 60-528). The SRV has no lead tag. The bottom head and nozzle cannot be inspected because no opening exists in the bottom skirt. The SRV should be checked and tagged, and means provided for inspection of the bottom head. check

27. EPN Tank (SAC 60- ). A leak exists on the upper nozzle at the southwest side. Fibercast

28. Bottoms Plant Feed Tank (SAC 60-630). The horizontal top seam is severely corroded (now patched with epoxy) and the top nozzles are heavily rusted. The paint is cracked and peeling. SPOT PAINTED

29. Catalyst Mix Tank (SAC 60-489). The heads, shell and nozzles are heavily rusted. The support steel is lightly rusted.

30. Catalyst Make-Up Vessel (SAC 60-515). This vessel and the support structure are severely corroded and is in danger of dropping into area below.

Remove W.O. written to remove.

C. Dryers and Filters

1. Recycle Filter (SAC 72-119). The heads and shell are heavily rusted and pitted. The seams and nozzles are lightly rusted.

2. Tri Still Reflux Drier (SAC 73-30). The small 1/2" nipple on the top head is heavily rusted, and the support steel is lightly rusted.

3. Tri Still Reflux Drier (SAC 73-29). The heads, nozzles and support steel are lightly rusted. The 1/2" nipple on the top head is heavily rusted.

4. Tri Still Reflux Filters (SAC ). The nipple on the top of the north filter is heavily rusted.

5. No. 1 Per Product Dryer (SAC 73-33). The heads, shell, seams and support steel are lightly rusted. The SRV has no lead tag. The cover on the insulation is punctured. The SRV should be checked and tagged.

6. No. 2 Per Product Dryer (SAC 73-33). Same observations as for No. 1 Dryer.

7. Tri Product Dryers - East and West (SAC 73-31). No lead tags on safety valves. The shell is heavily rusted under the insulation, and the heads and seams are lightly rusted. The paint and insulation are cracked. The SRV's should be inspected, tested and tagged.

8. Filter (SAC 72-128). The shell and nozzles have general light corrosion. The shell under the nameplate is severely corroded.

D. Heat Exchangers

1. No. 1 Reactor Primary Condenser (SAC 71-643). The bolts and flanges on the heads are heavily corroded, and a leak exists on the bottom head. The support brackets are lightly rusted.

2. No. 1 Reactor Secondary Condenser (SAC 71-595). The bolts and flanges on the heads are severely rusted. The support brackets are lightly rusted.

3. No. 2 Reactor Primary Condenser (SAC 71-630). The head bolts and support bracket are heavily corroded. The bottom head is leaking.

4. No. 2 Reactor Secondary Condenser (SAC 71-615). The head bolts and support brackets are heavily rusted. The shell and nozzles are lightly rusted. Insulation is cracked and broken.

5. No. 3 Rx. Primary Condenser - East (SAC 71-644). The heads and shell are heavily corroded. Both head flanges are leaking. Painted

6. No. 3 Rx. Primary Condenser - West (SAC 71-1292). The heads are heavily corroded and leaking. B.S.

7. No. 3 Rx. Secondary Condenser (SAC 71-608). The heads and support brackets are lightly rusted. The top head is leaking. The cover is peeled off the insulation. Painted.

8. No. 4 Rx. Primary Condenser (SAC 71-738). The top head flanges and bolts are heavily rusted, and a leak exists. The support brackets are lightly rusted.

9. No. 4 Rx. Secondary Condenser (SAC 71-737). The heads as support brackets are heavily rusted. The shell has a light rust condition. The insulation is cracked and broken.

10. No. 5 Rx. Primary Condenser (SAC 71-942). The head flanges are heavily corroded and a leak exists.

11. No. 1 Dowtherm Vent Condenser (SAC 71-633). The nozzles are heavily rusted and the shell is lightly rusted. The paint is cracked and peeling off.

12. No. 2 Dowtherm Vent Condenser (SAC 71-699). The shell is heavily rusted under the nameplate bracket, and the nozzles are heavily rusted. Light rust exists on the heads and seams. Paint is cracked and peeling.

13. No. 3 Dowtherm Vent Condenser (SAC 71-698). The shell is heavily rusted under the nameplate bracket, and the nozzles are lightly rusted. The paint is cracked and peeling.

14. No. 4 Dowtherm Vent Condenser (SAC 71-742). The shell is heavily rusted and pitted under the nameplate. The nozzles have light rust. Paint is cracked and peeling.

15. No. 5 Dowtherm Vent Condenser (SAC 71-941). Shell under nameplate heavily rusted and pitted, as are the nozzles. The paint is cracked and peeling.

16. Drying Still Primary Condenser (SAC 71-626). The heads, shell, nozzles and support steel have extremely heavy rusting and pitting.

17. Drying Still Secondary Condenser (SAC 71-612). The support steel, grating and beams are heavily corroded. The heads, shell and nozzles are lightly rusted. The insulation is open at the top.

18. Per-Tri Still Reboiler - west (SAC 71- ). The shell has heavy rust and the nozzles are lightly rusted. The paint and insulation are cracked.

19. Tri Still Condenser (SAC 71-600). The 3" nozzle on the top head is severely rusted. An epoxy patch is leaking at this point.

20. Condenser (SAC 71-604). The shell is heavily rusted under the nameplate and the cracked paint. Nozzles are lightly rusted.

21. Brine Chiller (SAC ). No lead tag on SRV. This SRV should be inspected, test d and tagged.

DM/ig

SL 049857