

TO Distribution
FROM R. A. Jacobs

DATE August 16, 1978
SUBJECT Status of Project to Eliminate the Acid Pit

M/SPM
G/JS
RETURN

1. Increasing concern over organic emissions from the organic/water separators in Plant B (Acid Pit, API Separator, and Waste Treatment Surge Pond) led to the initiation of P-866 in May 1978. The project was assigned to Mike Huber, who has done extensive research into the sources of liquid influent into the acid pit and methods for eliminating these sources. A status report of his work to date is attached.
2. According to the report, most of the influent sources to the acid pit will be eliminated by projects P-759, P-478, P-789, and P-859 which are already in progress. All that remains is to design a system for alternate disposal of Per/Tri aqueous wastes and to devise some type of covers for the pit, separator, and pond. Mike is actively pursuing these items.
3. Completion of these projects should satisfactorily eliminate the need for the acid pit, and it is proposed not to look further for alternatives to the acid pit. If this approach does not meet with your approval, please notify Mike or myself of your objections, so that other measures may be taken.

/dr

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TO Rick Jacobs

DATE

August 16, 1978

FROM Mike Huber

MKH

SUBJECT

P-866 Status Report

Nearly all of my time which has been devoted to P-866 (Vapor Control - Organic/Water Separators) has been spent trying to find a way to get rid of the acid pit. Looking at the API Separator and the Waste Treatment Surge Pond has been limited to testing various materials for possible use as covers. The purpose of this report is to bring concerned persons up to date on each portion of this project.

Acid Pit

Preliminary plans have been formulated to eliminate the acid pit. These plans call for rerouting of waste feedstocks from Per/Tri, OHC, VDC, and other miscellaneous sources (the Liquifaction Gunk Tank, etc.).

Plans call for constructing a new tank within the Per/Tri area. This tank will replace the east side of the acid pit. The tank will not only collect most Per/Tri wastes which currently go to the acid pit, but will also serve as a back-up system to collect any organic overflow from the DH Still feed tanks. This tank will be run at atmospheric pressure to allow gravity drainage of the various waste streams. Initial plans called for the flush water to drain to this tank during the first hour of reactor fluidization. After this time, the stream would be diverted to the #2 lift station. More recently, it was decided to drain all reactor flush water to the lift station. Not only will this reduce piping requirements, but it will also reduce design pressure requirements for the new tank. The aqueous phase of this tank will drain to the #2 lift station while the organic phase will be lined up to both the #1 and #2 DH Still feed tanks (in the event that one is under repair). The vent from this new tank, initially, was intended to pass through a charcoal filter to remove the organics and a scrubber to remove any HCl before being vented to the atmosphere. It is now believed that the charcoal filter is unnecessary. Future analysis of the scrubber vent (in the event that the tank and scrubber are constructed) will determine if the charcoal filters are necessary. The question of where the Per/Tri wastes would go if the new tank was in need of repairs was also considered. It was decided that to take care of this situation, piping would be such that the #3 DH Still feed tank could also serve as an "acid pit tank".

Consideration was also given to the catalyst buildup problem within this new tank. Vacuum trucks seem to be the most feasible solution. Allowing the organic phase to build up, so that the catalyst at the interphase could be removed from a nozzle on the side of the tank, should remove most of the catalyst. By making the bottom of the tank cone-shaped, heavier sediments could also be removed by vacuum truck through another nozzle. Recent experiences with catalyst buildup within the acid pit lead me to believe that catalyst buildup within the new tank could be more serious than originally anticipated.

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Futur work concerning Per/Tri and the acid pit will be to determine if the new tank is really needed after all. With the flush water being diverted to the lift station and with the DHS Reflux Drums' overflow being lined up to the #1 DHS Feed tank, the new tank would be handling only minor flows (scrubber drains, condensor drains, etc.) with the exception of the aqueous overflow from each feed tank. With proper instrumentation on these feed tanks to prevent organic overflow, the need for a new tank within Per/Tri should be reduced.

To eliminate OHC material from the acid pit will involve eliminating two main sources - stripper feed material and reactor flush water. Stripper feed materials include aqueous overflow from all reactors phase separators, the chloral phase separator, and the DHS reflux tanks. Elimination of the reactor flush water can be achieved by rerouting it directly into the #2 lift station. Eliminating stripper feed material from the acid pit should be taken care of by Charles Spivey in P-759 (Improve OHC Steam Stripper Reliability). When the steam stripper is down, all feed is rerouted to the acid pit. Spivey is attempting to cease this flow by installing another steam stripper and a slightly larger stripper feed tank. This will serve as a backup system to the original stripper and, with it in service, OHC's need for the acid pit as a dump site should be ceased. Currently, the status of this project is Design and Estimate.

The VDC Still Bottoms line is the only other source of continuous waste which is piped into the acid pit. An ORC Meeting had been planned to discuss diversion of this flow directly to the Waste Treatment header. This meeting was planned assuming that reboilers were to be put on the VDC Still in a minimum of one year. Andy Sharp has this project, P-487. Plans now call for the reboilers to be put in place around March, 1979. This leads to the argument of why route the VDC Still Bottoms line when nothing else concerning the acid pit is likely to be done before that time. Therefore, the VDC Still Bottoms line will not be moved at this time.

One other waste which is also piped into the acid pit, but only flows occasionally is recovered Per/Tri HCl. When recovered HCl exceeds the needs of Plant A, Plant C, and Pigments, it simply overflows to the acid pit. Jackie Thibodeaux in her project, P-789 (HCl Line from 3rd Incinerator to Per/Tri), will divert this stream to an acid tank which will be constructed as part of her project. A pre-ACT meeting on this project will be held around the end of this month.

All other sources of waste are dumped into the acid pit. Examples are the Liquifaction Gunk Tank and the Tetra waste "boxes". In trying to dispose of these wastes, initial thoughts were to dump these wastes directly into the API Separator. I ran across another project that will be doing just that. This project, P-859 (Organic-Contaminated Sludge Containment) is being initiated with the goal of eliminating the organic pits south of the salvage yard. All tar buggies will be hauled up a ramp (located near the WTU) and dumped into a "separation box" which will separate out solids from the liquids. The liquid organics will drain to a new lift station (also near the WTU) and will be pumped into the API Separator. Solids will be hauled off by BFI to a land-fill. This system could also be used to dispose of all wastes which are currently dumped into the acid pit. John Jordan, a Civil Engineer in charge of designing the ramp and drain pad, is currently in the Design and Estimate stage of the project.

If all projects having an effect on P-866 go as planned and if I can work up a system to dispose of Per/Tri wastes, the goal of eliminating the acid pit could easily be achieved.

API Separator and Surge Pond

The API Separator has been down since my project began and probably won't be operating for several months to come. My work on the separator and the Surge Pond has been limited to searching for suitable materials with which to cover these "vessels". A meeting was held July 18, 1978 with a vendor about a possible cover for the Surge Pond. The material he would have used would not hold up. Since that time, various materials have been tested (either in the acid pit or the east bay of the API Separator) to determine if they could be used as a floating cover on any of the three vessels in question. Materials which have failed include Hypalon, Dow Imbiber Bead blankets, Polystyrene floats, and Butyrate floats. Still being considered are polypropylene floats, sheet cork, cork floats, and plywood. These, and any other possible materials I find, will continue to be tested. Once a suitable cover is found, it will be tested as a temporary cover for the acid pit.

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