



Interoffice Communication

To R. A. Conrad
From R. Bryan
Date February 20, 1984
Subject HEAVY ENDS TANK (T-405) CLEANOUT

This memo is to list the current status and future plans for clean out of the heavy ends tank (T-405). The attached memo describes the problem. In brief, over the years, coke fines and solids contained in the heavy ends have settled in T-405 such that the tank is no longer routinely used. Cleanout of this tank presents a challenge because (1) the material is a legally defined hazardous waste; (2) it contains an agglomeration of coke fines, polymers, salts, heavy ends and EDC; (3) removal must be accomplished through a top-side manway; (4) transportation is difficult because of settling and (5) disposal is limited to incineration. In 1982 through mid-1983, studies were undertaken to determine the best means for cleanout. Other than a stripping project, which had capital and operational problems, the only practical alternative was a turn-key job by Rollins Environmental Services Inc. Based on our survey, they were the only company that could do the complete job of removal, transportation and incineration. Other companies could only do parts of the job. No other company was found including Du Pont to do the incineration. Rollins submitted a quote of \$152,500 in May, 1983 for the complete job.

Recently we requested an update on this bid which we expect to receive by February 24 along with Rollins' detailed operating plan for removal. This bid is not expected to exceed \$175M. The current plans are for Rollins to move in the last week of March or first week of April. The timing is set by how quickly we review and accept their proposal and their fabrication time for a special pump. Their estimated time for cleanout is 1 week.

The plan for removal is to suspend the special pump through the top manway and slurry the solids into the liquid contained in the tank (lab tests say this "should" work). Then the slurry would be vacuumed into the trucks used to transport it to Baton Rouge for incineration. The greatest unknowns are how well the material will actually slurry and whether additional EDC or heavy ends are needed to slurry all the solids. If the material will not slurry or if we expect costs to increase significantly for whatever reason, our agreement with Rollins is that they will cease the operation and be paid for their to-date charges, etc. At that time, a new plan must be evaluated on how to remove the material.


Ron Bryan
Chief Process Engineer

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Interoffice Communication

To R. A. Conrad
From S. J. Reynolds
Date December 6, 1983
Subject SOLIDS BUILD-UP IN HEAVY ENDS STORAGE TANK

The following is a summary of the history and current status of the solids build-up in the Heavy Ends Storage Tank, T-405.

The tank (capacity of 62M gal.) was built to store VCM and EDC heavy ends for tank truck shipment to an outside firm (PPG). The heavy ends contain sodium salts, polymers, and coke fines which, over several years operation, settled to form a significant solids level in T-405. The high solids level began causing problems in meeting the solids spec on heavy ends shipments to PPG; therefore, T-405 was no longer routinely used for a product tank, (T-452 is now used).

Presently, in T-405 the level of an off-spec "Heavy" liquid heavy ends is approximately 15 ft. The high-side level of the solid material (which slopes up, away from the inlet nozzle-see attached drawing) is approximately 9½ ft., and the level of a denser solid material is approximately 6½ ft. The total quantity of solid material in T-405 is approximately 15,000 gallons and the additional "Heavy" liquid hydrocarbons is approximately 24,000 gallons.

The most defined solution to the solids build-up problem is to slurry the solids, pump the slurry out of the tank into an agitated tank truck, and have the slurry incinerated by an outside disposal firm. Rollins Environmental Services (LA) Inc. has submitted a quote dated May 31, 1983 to remove and incinerate 44,000 gallons of liquids/solids slurry (assuming 29,000 gallons of liquid heavy ends to slurry the solids) at a cost of \$152,500. Incineration of this same material was also discussed with Du Pont in LaPlace, La. but Du Pont found the material unsuitable for incineration at their facility.

Only one other alternative has been fairly well defined and that is to steam distill the liquid/solids slurry in plant, landfill the refined solids, and incinerate (in plant) the distilled liquid hydrocarbons. This alternative was rejected because the preliminary cost estimate for this project was \$200,000 and numerous operating problems were expected.

Other alternatives that have been rejected include:

- 1) Landfill the heavy ends solids in epoxy phenolic lined drums. This alternative was rejected because of the uncertainty of epoxy phenolic material to resist corrosion in this service and because of worker exposure during drum loading.

- 2) Solidification of heavy ends solids and landfill. This alternative was rejected because the solidified material was determined to have a flash point below the federal standard set for landfillable materials.
- 3) Fly Ash addition to heavy ends solids and landfill. This alternative was rejected because the heavy ends solids/fly ash material was determined to have a flash point below the federal standard set for landfillable materials.
- 4) Deep-well the heavy ends solids. This alternative was rejected because of the incompatibility of the heavy ends solids and the strata beneath the wellhead.

An alternative that may become viable in the near future may be at-sea incineration depending on the outcome of the local hearings. Because none of the above options are considered viable and because of the Rollins proposal, no action has been taken pending further study of the problem.

If there are any questions or comments, please contact me.

S. J. Reynolds

S. J. Reynolds
Process Engineer

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cc: JWW-MLA-MCM-RB-DLD-SRA-PLF

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