



Interoffice Communication

To Sid DePriest

From Lew Cresswell

Date February 23, 1981

Subject Waste Treatment-Lake Charles Refinery Sour Crude Project

A meeting was held in Lake Charles on February 18 to review with Plant personnel the contents of our January 30 letter on the Sour Crude Project. The next round of refinery effluent guidelines (applicable to the Sour Crude Project) is scheduled to take effect on or before July 1, 1984. Since the final version of the guidelines are not due until late 1981, the 1984 compliance date could slip. We developed expected future permit limitations for the Lake Charles Refinery based on the proposed guidelines issued about a year ago. We modified our calculated effluent numbers to include coking. The proposed effluent guidelines applied across the board would give very stringent effluent requirements for the Lake Charles Refinery due to not including an effluent allowance for coking. There is reason to believe that the EPA will change its final version to include coking.

Several other topics were also discussed including:

- 1) Effluent rates from the Plant are presently up with the EFS project to a point well beyond what we projected it should be. Part of the problem is that cooling cycles are down and reuse of sour water stripper bottoms in the desalters is limited due to overhead corrosion problems. The Sour Crude Project will push the effluent rates up even more.
- 2) Although several of our projected Sour Crude water rates are correct on the average, the flows tend to come intermittently at high rates. Examples are ballast water, crude tank draws, and coker drilling water. We must design hydraulic flexibility into future treatment systems.
- 3) Coke storage area storm water and excess coke drilling water must be handled in the future in the activated sludge unit. Also, a source of water for the Sour Crude Project may result from the possible need to wash desulfurizer exchangers continuously.
- 4) The Plant will get recent activated sludge feed rates to us from the daily charts within two weeks. We will revise our loading calculations to reflect the new rates.
- 5) PED will prepare several 1982 Capital Budget designs in rough draft form by early May for Plant review. The quality may be less than 'budget' for some of the designs due to tight timing.
 - a) Pretreatment flotation-the EFS flotation design must be updated to cover the higher flow rates of the Sour Crude Project.
 - b) Coker Water Flotation Unit-a small induced air flotation unit will be designed to treat only coker water. This will allow gross oil removal on this dirty stream before discharge to the overall treatment system.

MCD 000002533

Sid Depriest
Page 2

- c) New Storm Water Lagoon-The Plant would like to greatly reduce firepond overflows in the future from stormwater. Some of the collected storm water may require treatment in the activated sludge unit before release.
- d) Cooling Water Bypass-Cooling tower blowdown water will be piped up to completely bypass (and unload) the treatment facilities. We will assume at this point that the Plant will go to a non-chromate inhibitor for all towers. Should the cooling water become contaminated with a high level of organics (such as recently occurred), provision will be made to divert cooling water to the storm lagoon for a short period to prevent permit violation.
- e) Aeration-The Sour Crude Project will require that additional aeration be added to the activated sludge unit. A totally new aeration system will be designed to replace the existing surface aerators.
- f) Additional Biological Treatment Equipment-Additional equipment will be designed as necessary to handle the higher flows. Hopefully, we can avoid having to add such items as a new secondary clarifier, but we will include whatever is necessary in the budget design.

PED will also briefly check the capacities of the two sour water strippers. Following completion of the budget designs, we plan to begin to investigate the sources of higher effluent rates and optimization of the existing flotation unit.

Finally, we agreed to not include the Sour Crude project in the present effluent permit application that is being filled out. The new permit is likely to be an extension of the existing permit for a short period until the new Refinery Effluent Guidelines come out. Engineering Science advises us that including an expansion that will occur in late 1983 in the present application will probably slow down the wheels of EPA. They suggest filing an amended application after the Sour Crude effluent case is better defined. We plan to incorporate recent priority pollutant data and send the permit application to the Plant for review. The application will be held until closer to the May 30 deadline before submitting to EPA, to incorporate the most up-to-date effluent data.

Lew Cresswell

L. W. Cresswell
Supervising Process Engineer
Engineering Services Division
Process Engineering Department

ba

cc:LDW:RGG:LES:AED

KCH:RJJ:RM

I. F. Wagner, Westlake, Louisiana
J. W. Leigh, Westlake, Louisiana
R. G. Checksfield, Westlake, Louisiana
Tom Mihalcik, Westlake, Louisiana
A. J. Nash, Westlake, Louisiana
Dale Edwards, Westlake, Louisiana

MCD 000002534