



Interoffice Communication

To : R. E. Lehmkuhl
From : C. L. Miller
Date : October 1, 1979
Subject : ABERDEEN PLANT VCM EFFICIENCY

This letter will summarize our recent progress and current plans to improve VCM efficiency at the Aberdeen Plant. Below standard efficiency has been the direct result of losses in the process and many steps have been taken to reduce these losses. Those items discussed here reflect improvements since the last letter on this subject.

Slurry Losses

1. Our spill control program is working well and there is no evidence of blend tank overflows in several months.
2. Due to frequent packing failures on the blend tanks agitators, all of the agitators have been replaced with air spargers thereby eliminating this slurry loss source.
3. Major improvements have been made at the reactor dump Sweco strainers for faster instrumentation response and elimination of leaks. There are occasional losses here, however, when the slurry lines plug near the blend tanks. The new blend tank design will improve this system.

Reactor Foaming Losses

These losses have been greatly reduced by better control of batch size, water to monomer ratio and reactor seal flush volumes as well as use of an improved antifoam. The DF-160LC antifoam was tested in April and full scale use began on May 22, 1979.

Coarse Batches

Thus far this year we have had 10 coarse batches which were total losses. This represents about 0.2% as VCM efficiency. Procedure improvements have been made for better colloid makeup and an AFE has been submitted for separate addition to the old module reactors. Since most of the problem is in the old module, this should help considerably. An experimental suspending agent (J-50) has been tested and could improve control also if we can fully justify the changeover.

There have been no coarse batches since June, 1979.

Resin Losses

1. Improvements were made to the dryer dust collectors in July, August, and September with installation of high temperature gaskets and installation of improved sock pulsing systems. Revisions to all dryers are complete at this time. We expect losses from this source to be reduced by at least 50% and spot samples on several dryers have been even better.
2. During June, July, and August, we debugged 3 MM pounds of resin. Losses from debugging are at least 1% due to dusting and small amounts remaining in each bag. Hopefully this operation is over until next summer and the three year plan indicates insufficient debugging requirements to justify a system that would reduce these losses.
3. Dryer losses are primarily centered (1) around the activators which frequently malfunction allowing resin to backup and overflow the sifters and (2) around the sifters with multiple flexible rubber connections and mechanical connections which fail. One solution is to do away with the present system and replace it with a Sweco screener and continuous transfer system, similar to the Oklahoma City Plant. As part of the dryer debottlenecking project this has been done for Dryers 1 & 2 with marked improvement thus far. Dryer 2 was revised and started up on September and Dryer 1 was revised and started up on September 27, 1979.

We are continuing to pursue better material of construction for the sifter boots and a detailed check list has been prepared and implemented for activator maintenance.

4. Safety chains have been installed on the Cam-lok couplers used on transfer lines to minimize losses from coupler failures.
5. The resin spill prevention program is functioning satisfactorily and special efforts have been made to minimize losses in loading as well as normal transfers. Silo level alarms are being installed.
6. We just received the trailer portion of the portable vacuum system and material evacuated from railcars will be recovered as saleable product in the near future. Previously this material has gone to waste disposal.

VCM Losses

1. Close attention is paid to replacing any leaking valves around the reactors and routine weekly checks are made of all reactor vent valves.
2. Double block valves will be installed on all reactors later this year to minimize opportunities for leaks.

VCM Losses - (continued)

3. Major reductions in the quantity of VCM vented to the incinerator have been made during the past few months. Typical flow to the incinerator was 100 M lbs./mo. through May when it was reduced 50% to 50 M lbs. In August and September this has been reduced further to an average of 25 M lbs./mo. This was made possible via optimization of the vent refrigeration system and a concerted effort on the part of operations to reduce this loss.
4. Thus far this year we have had two relief valve discharges and several action steps have been taken to prevent others.
5. Slurry stripping is greatly improved with average VCM in reactor slurry reduced from 350 to 200 ppm.
6. Routine leak patrols catch leaks quickly and repairs are made. We have two areas of repetitive leaks that have not been solved yet. These are reactor condenser lids and the Corken unloading compressors. Several different style gaskets have been tried but work continues to minimize losses at these areas.
7. Attempts to reduce seal failures will have a positive effect in the future.

Accounting

Several cross checks have been established to minimize accounting errors and the Operations Engineer monitors weekly results closely. There are factors which can cause month to month variations however, one of which is questionable strappings on the large silos. Cost of restrapping all the silos was determined to be \$15,000 and was deferred earlier this year for cost control since any variation one month from this source will be compensated for the next month if silo levels change significantly.

It is timely to make another check of truck and rail scales and arrangements are being made.

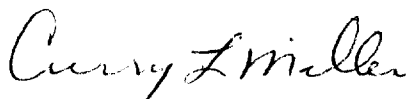
General

When comparing efficiencies over the past year with previous years one major difference is in moisture content of the resin. Because of our efforts to eliminate moisture complaints moisture levels have been drastically reduced. This can account for about 0.3% efficiency loss. Also as we have been able to reduce OMS usage we have made reduction in overall resin volatiles and this may account for as much as 0.1% loss. This however is not a dollar loss as OMS is about the same price as VCM.

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General - (continued)

Overall I think we are making good progress in VCM efficiency improvements. This would have appeared more positive except for major dust collector problems in May and four coarse batches in June. Operations now has primary responsibility for short term improvements in efficiency and longer term capital changes are scheduled with the Plant Process Engineering Group. The updated graph of our progress is attached.



Curry L. Miller
Plant Manager

cjt

Attachment

c: CRM, RAF

