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From: R. C. Tebo, Houston, D. E. Knittig, Aberdeen
Date: March 5, 1990

Subject: 5305 RESIDUAL VCM REDUCTION

During the last four months, many extensive test runs and experimental designs were done to reduce residual VCM in 5305. Some of the results looked very promising. Some of the resulting recommendations are listed below.

Recommendations

1. Aberdeen's wet air system reliability needs to be improved. Large air pressure swings cause blend tank and silo aeration variability which adversely affects RVCM. Blend tank and silo aeration flow rates are consistently below recommended levels. Improved aeration would help RVCM removal in the blend tanks and silos and significantly reduce RVCM variability.
2. Aberdeen should evaluate the effect of changing the 5305 particle size specification. RVCM can be significantly reduced by shifting the resin particle size smaller. By targeting a 120 micron average particle size, RVCM can be reduced by about 30%.
3. An air heater should be installed to heat the silo air to 150°F. Heating the aeration air going to the silos also has a beneficial effect by reducing RVCM by 25%.
4. A system should be installed to steam heat the blend tanks to maintain the temperature at 150°F. By keeping the blend tank temperature at 150°F, blend tank RVCM can be reduced by up to 50%. For immediate benefit, operators should try to keep the blend tank temperature up by rinsing the large reactors with hot water.
5. Aberdeen needs to investigate ways to improve small and large blend tank agitation. Currently, a heel forms on the bottom of the blend tank which does not get aerated. Improved agitation would result in more uniform blend tank aeration.
6. Rotary dryer controls need to be improved. Loose control of the rotary dryers causes wide RVCM variability out of the dryer.

These are believed to be the best ways to improve 5305 RVCM. A complete test run report with further recommendations will be issued at a later date.

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cc: RWS \ JDO \ EJM \ RBN \ SCH \ PCS \ JME