

EXHIBIT “G”

ATTACHED

Operation Information

A. Operation Information

To increase efficiency of your equipment and to prevent oversights that could cause delay in operation or serious damage to the equipment, it is highly recommended that all operators become familiar with, and use the following checklist before beginning operation.

B. Prior to Daily Operation

1. Check for cleanliness around equipment noting oil spills, liquid spills, grease spots, etc.
2. Check for excessive vibration while machine is operating empty and while machine is on line.
3. Check for excessive bearing noise.
4. Check for loose fasteners.
5. Check that all fluid flow monitors register proper flow.
6. Check bearing temperatures.
7. Check for oil/fluid leaks around hydraulic pump unit, hoses, etc.
8. Check ammeter readings.
9. Check general condition of vibration isolators.
10. Check flexible connections for any signs of deterioration.
11. Check lamps for fault lights by depressing REST/LAMP TEST push button.
12. Check that hydraulic backdrive is operative.
13. Lubrication levels of bearings (lubricate if needed). Lubrication list attached in Section 8.

C. Prior to Weekly Operation

1. Check for abrasion only on hydraulic hoses.
2. Check that centrifuge is level.
3. Remove feed tube and check that it is not clogged.

D. Initial Centrifuge Startup

1. Before starting the centrifuge check all fluid levels.
2. To start the centrifuge complete the following:
 - a. Turn on the hydraulic backdrive pump unit.

3. After starting the centrifuge, allow bowl speed to be attained (approximately 3 minutes), then turn on in feed pump and flocculant pump, if used.
4. During operation the centrifuge will shut down if:
 - a. Bearing maximum temperature is exceeded.
 - b. Hydraulic pump group pressure reaches high-high.
 - c. Hydraulic pump group fluid level is low.
 - d. Hydraulic fluid temperature is too high.
5. To shut down the centrifuge do the following:
 - a. Stop in feed and flocculant pumps.
 - b. Flush centrifuge complete (see cleaning).
 - c. Set bowl speed to 0 RPM.
 - d. After bowl stops completely (approximately 20 minutes) turn off hydraulic pump group.
 - e. Routine operation.

The initial startup (explained previously) is used to check out the mechanical and electrical systems of your centrifuge and to observe the operation under clean water feed conditions.

The first day of your routine operation, however, is used to optimize the process variables in order to produce the best results at the least overall cost to the owner.

E. General

The following is a list of process and mechanical variables which can be adjusted in order to optimize centrifuge operation:

1. Bowl speed.
2. Internal screw conveyor differential speed.
3. Pool depth.
4. Type of polymer used.
5. Polymer addition point.
6. Dilution water flow rate.
7. Slurry feed rate.

An experienced Centrisys service engineer is available to assist you to quickly establish the most efficient operation parameters.

Note: At a later time, minor adjustments may be required on a routine basis, since incoming slurry quality and dry solids content can be expected to vary.

F. Routine Startup

1. Prepare polymer.
 - a. If polymer is required, be sure that an adequate amount of polymer for the operating period is prepared prior to centrifuge operation.
2. Start lube oil system (if supplied).
3. Start lube oil pump and allow to run for approximately 4 minutes.
4. Start cake conveying equipment.
 - a. Your facility may include cake conveying equipment. If it does, then start the equipment and be sure that there is a truck or receptacle at the discharge to receive the produced cake.
5. Check piping system.
 - a. Check the piping system to ensure that valving is correctly set to feed the centrifuge. If your solids chute is equipped with a diverter, be sure it is set to allow the solids to exit straight through.
6. Start the hydraulic back drive pump unit.
 - a. After starting the hydraulic backdrive pump unit, set the differential speed per the "hydraulic pump unit adjustment section." See Section 9 Hydraulic Pump and Section 12 CVC.
7. Start main drive.
 - a. Check to ensure that the main bearings are adequately lubricated before starting the main drive motor.
8. Start polymer metering system.
 - a. Determine approximate polymer feed rate based upon the planned solids load to the centrifuge (in pounds of dry solids per hour) and the anticipated polymer requirement (in pounds of polymer per ton of dry solids).
 - b. Open the dilution water valve and set the flow rate (if dilution water is required), then start polymer metering pump and set the polymer flow rate.
 - c. Be sure that the metering pump is working satisfactorily before proceeding and that polymer solution is valved over to the correct feed point.
9. Start sludge feed pumps.
 - a. Determine the approximate sludge feed rate (in gallons per minute) based upon the planned solids load to the centrifuge and the percent dry solids in the slurry. Open the proper valve on both suction and discharge side of the slurry feed

pumps, then start pumps at about $\frac{1}{4}$ of the expected feed rate, then gradually increase the feed up to the planned value.

10. Sampling.

- a. Samples of the slurry feed, the centrate and the cake should be taken frequently during the first hours of operation in order to evaluate performance and modify operation parameters. (See "Optimizing Centrifuge Performance")
- b. Sampling frequency can be reduced remarkably once the performance is optimized, however the samples should be taken routinely to be sure that your centrifuge is operating as efficiently as possible.

G. Optimizing Centrifuge Performance

1. General

A number of process and machine variables must be adjusted to achieve optimum centrifuge performance. Some of these variables, such as bowl speed, conveyor differential, and pool depth are major adjustments that should be made during the initial optimization of the centrifuge and at frequent intervals thereafter when major changes in the slurry quality occur. Others, such as polymer feed rate, dilution water flow, and slurry feed rate should be adjusted as needed to produce optimum results at the lowest cost.

2. Bowl Speed

Increasing the bowl speed is often thought of when a drier cake or a clearer centrate is desirable. Surprisingly, the response to increasing the bowl speed is not necessarily an improvement in performance, but always increases power consumption. Higher speeds do produce great centrifugal forces; however, they tend to create larger shear forces, which, in turn can break up fragile agglomerates of flocculated particles. In addition, some materials will reach a certain level of compaction and will not compact much more, if at all; regardless of the applied centrifugal force.

In summary, it is not possible to accurately predict the effect of bowl speed related to performance. If there is a question regarding optimum bowl speed, then it can best be resolved by evaluating performance of several speeds during startup of the equipment. Select, as the optimum, the lowest speed that achieves the desired cake dryness and centrate quality.

Caution: Never exceed the bowl speed attained by the speed/sheave combination furnished by Centrisys.

3. Conveyor Differential

The differential speed of the conveyor has a major effect on centrifuge performance. Lower differential speed of the residence time of the solids cake as it is scrolled through the centrifuge; this allows more time of compaction and usually produces cake with a higher dry solids content. Lowering the differential also decreases the

turbulence level in the pool, reducing the problem of solids suspension, and allowing more quiescent settling conditions. As a result, lower differentials usually mean improved centrate quality

There are two factors which limit the minimum differential speed. First, the low scrolling rate will result in a high depth of cake solids. At a certain differential, these may infringe on the clarified pool and be carried out with the centrate, causing a marked decrease in centrate quality. Second, plugging of the centrifuge may occur if the rate of solids input exceeds the scrolling capacity of the conveyor. A plugged centrifuge may have to be dismantled if it is not cleared quickly by stopping the feed.

4. Pool Depth

The pool depth is controlled by adjustable weir plates located on the bowl headwall opposite to the feed end of the machine. The effect of varying pool depth is difficult to predict and will depend on the settling and compacting characteristics of the solids in the sludge. However, in some applications, the effect of pool depth can be critical to good performance, especially when the pool level is almost as the solids discharge point. As a general rule, it is necessary to experiment with different pool depths, in order to evaluate the effect on your specific sludge.

In theory, lowering the pool should increase cake dryness because a longer length on the conical part of the bowl (beach area) is out of the liquid. This increases the time that the solids can drain before they are discharged from the machine. Centrate clarity should suffer if the pool is lowered too much, since the settling time is reduced and therefore, allowing the unsettled solids to exit with the centrate. Also, lowering the pool depth can make the solids difficult to convey due to the increased length of the beach area.

Again, in theory, increasing the pool depth should cause cake moisture to increase, since raising the pool depth reduces the length of beach area. A deeper pool depth, however, usually improves centrate clarity, since the liquid retention time is increased, giving the lighter particles time to flocculate and settle out. Deepening the pool also makes it easier for the solids to be conveyed.

5. Sludge Feed Rate

The actual volumetric sludge feed rate to the centrifuge will also affect centrifuge performance. The residence time in the centrifuge is inversely proportional to the sludge feed rate. As a result, decreasing the feed volume will increase the residence time and should improve centrate clarity. Lower volumetric feed rates will mean lower dry solids feed rate as well, which permits lower conveyor differentials and will possibly enhance cake dryness. Unfortunately, there is a down side to lower feed rates. Electrical consumption, in terms of kilowatt hours per ton of dry solids processed, will increase as the feed rate is decreased.

6. Polymer Feed and Dilution Water

Most local polymer suppliers will be happy to assist you with polymer selection as well as mixing metering systems. If you are unable to obtain satisfactory assistance, please contact Centrisys Corporation and we will assist you in any way possible.

7. Stopping the Centrifuge

- a. Stop the sludge feed pump (and shut valve at pump).

Do not shut off the centrifuge until all sludge has been processed through the centrifuge. Flush the feed lines to prevent plugging of the pump, feed lines, and the centrifuge upon next startup. The centrifuge may be shut down when solids are no longer discharged from the centrifuge.

- b. Stop polymer pump (and close valve at pump).

Allow dilution water flow to continue (or alternately, open flush valve), for 20 to 30 minutes, to flush residual solids. Flush volume feed is in Gallons per Minute (GPM).

- c. Set diverter in solids chute (if supplied).

Set the diverter after first checking to be certain all solids have been discharged by observing cake discharge outlet.

- d. Shut down main drive motor.

Centrifuge will coast to a stop in 30 to 40 minutes.

Caution: Do not shut down hydraulic backdrive or oil lubrication pump (if supplied) until centrifuge is completely cleaned and centrifuge has come to a complete stop. This will avoid plugging of the centrifuge after final shut down.

- e. Stop the cake solids conveyor.

After centrifuge has discharged all solids and conveyor has become completely free of solids the conveyor can be shut down.

- f. Turn off all dilution and flush water connections.

After the centrifuge slows through the vibration isolator resonance (approximately 200 to 300 RPM), noted by a short term increase in the vibration level of the machine, all dilution and flush water connections may then be turned off.

- g. After the centrifuge has come to a complete stop.

Once the centrifuge bowl has come to a complete stop, allow the hydraulic backdrive to run for approximately 1 minute. Then the hydraulic pump unit may be shut down.