RBC SERVICES UPDATE

RBC Services **Phone: 630-264-5241 Fax: 630-892-7951**
Division of McNish Corporation

STARTING OVER-CLEAN MEDIA / CLEAN TANK

Issue 3, 1992

A clean tank is an important part of maintaining optimum RBC process. While the majority of solids produced by the RBCs pass over the effluent weir, some solids remain and settle to the bottom of the tank.

If these solids are allowed to accumulate for a long period of time, they will form a “blanket” which may begin to cause problems. The under layer will become septic and “kick back” BOD which the system is forced to treat and will also decrease valuable DO levels. RBC Tanks should be cleaned at least once every 2 years.

Over the years, we have received many calls requesting information on how to strip biomass from RBC media and somehow start over, monitor the growth of biomass and get a better handle on fine tuning their RBC operations.

The **SideCar** RBC aeration system is still the best. Knowing plants generally cannot afford to have the RBC off line for too long, you need to perform the task as quickly as possible. This can be done easily.

What needs to be done is to shut the flow off to the RBCs, raise and maintain the pH level of the water in the tank to 13, for a period of approximately 48 hours while continuing rotation.

By the end of this period, the biomass should have sloughed from the media and reduced the overall load of the RBC to near new weight. If this hasn’t happened, the media may be partially plugged.

The most effective method of raising the pH is by adding caustic, but in a solution - not a powder. This can be purchased in a standard 50% active solution and delivered in 55 gallon drums. *Be sure to take necessary precautions when handling.*

For each full size RBC (25ft. media envelope), it initially takes approximately 35 gallons of caustic solution. More may be needed to maintain the desired level for the 48 hour period.

Once the media is stripped, a mild acid can be added to neutralize the pH, or open the influent valve *slightly* to dilute the solution, being careful not to cause an upset by introducing the high pH solution back into the waste stream.

When the solution in the tank is neutralized, power to the RBCs should be shut off, the tank then should be drained and the remaining solids should be cleaned from the bottom of the tank.

After the tank is cleaned, restart the flow to the tank. Once the water returns to operating level, return power to the RBCs. At this time however, the flow should be cut back considerably. Reason being, the bacteria will need to re-establish itself on the media. This will take approximately 7 to 10 days.

Starting over from this point will now allow you to begin monitoring RBC weights and controlling biomass loading. This can be accomplished with the use of Load Cells and an Aeration System.

Over time, many plants have upgraded their RBC equipment to include Loads Cells and Aeration. This not only allows biomass control, but also enhances the overall process efficiency of the RBCs. Aeration increases the capacity of the RBCs which will ensure their effectiveness in providing quality effluent for as long as possible.

By now, many RBC plants are getting to an age when you may need to know just how far into the future your current RBCs will take you.

In many cases, while the plant is operating at 60 to 80 percent of its hydraulic design, the organic loading has increased to near or over design capacity. It then becomes necessary to get maximum performance from your RBCs.

For additional information regarding biomass stripping, Load Cells or the installation of an Aeration System, call RBC Services. We'll do what it takes to help you "Start Over".