1.0 Purpose

The purpose of this procedure is to outline the proper procedure for executing the starting and stopping of the digesters so that they have the proper amount of acidity to prevent the MgO from forming "rocks" of oxysulfate and then causing the circulation loop to stop.

2.0 Scope

This procedure applies to all manufacturing workers.

3.0 Responsibility

Lead Operators, Material Handlers

4.0 Safety Considerations

Safety glasses and steel-toed shoes. Sulfuric acid is in use, take necessary precautions to prevent contact.

Safety is a condition of employment. Employees are not authorized to work in an unsafe manner and are prohibited from harming the environment of the facility or community.

5.0 Materials/Equipment

N/A

6.0 Procedure

Starting and Stopping the Digesters is a routine occurrence. However, starting the Digesters can cause problems if MgO is started before the Digesters are acidic. The MgO can form "rocks" of oxysulfate cement which can cause the circulation loop to stop.

Warning – the acid will not run if the circulation loop is flowing less than 50 gallons per minute. Make sure the circulation loop is running properly before starting the digester.

1. STARTING A DIGESTER

    a) Check that the circulating line is operating, the pH meter is reading properly, and the agitator is on.
    b) Open the Mix Pot Water Supply valve. Check for water going into the mix pot.

c) Open the Acid Control Shutoff valve.
d) Wait until the pH in the primary digester goes below 5.00 before starting the MgO.
e) On the #2 Side, Start the Short MgO Screw and the Long MgO Screw.
f) Turn the MgO Feed Drive switch on and adjust the dial as needed
g) Check to see that the MgO is flowing into the mix pot.
h) Open the Density Control Shutoff valve.
i) Slightly open the Mother Liquor Feeder valve.
j) Close the Mother Liquor Recirculation valve and adjust flow with the Mother Liquor Feeder valve to about half of the TOTAL feed to the Crystallizer (15-20 gpm).

NOTE: For Digester #4, refer to P17-PR-200-097 for starting and stopping the Main MgO Mix Pot. As is typical, do not allow MgO mix to flow into an alkaline mixture, or oxysulfate rocks will form.

2. SHUTTING DOWN A DIGESTER

a) Open the Mother Liquor Recirculation valve.
b) Close the Mother Liquor Feeder valve.
c) Stop the MgO Feed Drive.
d) On #2 Side, stop the Short MgO Screw and the Long MgO Screw.
e) Close the Acid Control Shutoff valve.
f) Allow the liquid in the mix pot to clear up.
g) Close the Mix Pot Water Supply valve.
h) Close the Density Control Shutoff valve.

NOTE: For Digester #4, refer to P17-PR-200-097 for starting and stopping the Main MgO Mix Pot.

7.0 Reference Documents

Starting and Stopping the Main MgO Mix Pot (P17-PR-200-097)

8.0 Change Information

- Changed document owner from Patrick Owen to Kenneth Basehore
- Added notes to differentiate the starting of the Main MgO Mix Pot for Digester #4
- Lowered the circulation loop minimum flow rate to 50 gpm