

BFP Startup Procedure

1. Before starting BFP (Belt Filter Press), ensure that **BOTH** guide paddles are pulled back, so they do not get caught up in the filter belt.
2. Check for polymer availability and that Polymer delivery system is in good order.
3. Turn on Main panel with power switch at the top right of the large metal panel.
4. **Alarm will sound !!** Push reset button, alarm will stop, push lamp test to check all lamps on panel.
5. Put Control panel into automatic mode.
6. Place Dewatering switch in Automatic mode.
7. Check sludge pump control is set to - **Pump 1**, (check that conveyor manual switches are in remote, outside by elevated conveyor).
8. Push auto start. Pre-Wash light will come on for 90 seconds.
9. Machine will start pumping hydraulic fluid to tension pistons, water will start to flow and after 1 minute, the belt drive will start turning the belt.
- 10. PUT BOTH GUIDE PADDLES BACK INTO NORMAL RUN POSITION OR THE BELT WILL "WALK OFF" THE ROLLERS.**
11. After 1.5 minutes from pushing auto start button, the panel will light up (Ready). Polymer delivery system will turn on and so will the Sludge pump. (Due to computer or mechanical issues, you may have to turn on the sludge pump by hand, control is located inside the electrical room located in the back corner in the shop).
12. You can change the way the press runs by using the Belt drive, Sludge pump speed, and Poly Pump speed meters on the front of the panel. Wait 10 minutes after starting the machine to adjust your run so you can see how the machine is running.
13. Divert dried sludge solids to the roll off can by way of the pneumatic doors on the underside of the conveyor screw outside.
14. At the end of the run , push the auto stop button and the press will go into automatic cleaning mode and will continue to run water thru the belts to clean them (you must shut off the Sludge pump also if you turned them on by hand).
15. Wash down the machine after all the solids have cycled thru; machine will run through its cleanup mode for 45 minutes after stopping your run.

Daily Standard Operating Procedure

1. All Operators, when arriving on shift, must meet with outgoing Operators to discuss any problems, special circumstances, or extra duties that are needed to operate the plant for that day/shift.
2. Operators must walk the plant at least every two (2) hours to visually inspect plant processes and confirm the plant is operating normally.
3. All samples should be taken around the same time, in the same location as earlier samples to build a database of average information for each set of samples.
4. Operators running the "Press" must also take samples using the same set of instructions as above.
5. All operators must cycle thru the computer screens on the Intellipro, and the SCADA computers at least once an hour to look for any faults.
6. Operators must follow the SOP for Storms as needed.
7. Operators must watch for drop-offs or surges in flow in excess of 1.5 MGD per day; report immediately.
8. All anomalies encountered outside the realm of operators' training must be reported to the Superintendent, Assistant Superintendent, and/or Maintenance Supervisor immediately.

Gravity Belt Thickener

Startup Process

1. Make sure polymer delivery system is in working order and switches are in remote start configuration.
2. Go around the machine and articulate (move) all of the edge guide paddles both ways.
3. Push Blue button on the Main panel face and throw the Main switch at the same time.
4. Turn on Main power switch at upper left.
5. Allow Machine to boot up.
6. Touch orange button marked – Go to Main Control Panel.
7. Touch Green Air Solenoid button.
8. Touch Green Booster Pump button.
9. Touch green GBT button.
10. Allow 2 minutes of run time so all processes can get started.
11. Touch, in order, Sludge pump, Polymer Pump, Screw conveyor, and Thickened sludge pump buttons on right side of screen.
12. Press should now be running, touch - Go to Main Screen button.
13. This screen will show you the speed the press is running(Lower left center), the speed the Polymer pump is running (Lower right center) and the GPH of sludge the pump is pumping (bottom right).
14. Top Left shows if you have a fault, center left show Auto or Hand Mode, usually in hand mode.
15. Top center 3 buttons are the speed set points for the GBT.
16. Large center button is how you switch between GBT and BFP mode. Usually in GBT mode, (BLUE).

Switching to BFP mode

1. Go to Main Control panel.
2. Touch stop on all GBT processes. Wait 2 minutes until all sludge is off machine.
3. Go back to main screen.
4. Switch to BFP mode on large square button in middle of screen.
5. Maintenance will need to be contacted to help lower the diverter blade at the top end of the top belt.
6. Once diverter blade has been moved, restart machine as above, except, do not turn on GBT button, touch BFP button instead. Machine is now running as a Belt Filter press.
7. At the end of the run, cleanup is as for the BFP (large press). If not running as a BFP on the next day , make sure the diverter blade is replaced to its original position.

SOP

Bi Sulfit e Change-Out

Removal of empty tote

Turn water hose on to run through the drain while this is being done.

Verify tote discharge valve and feed line are closed.

Begin to disconnect the feed line from the tote.

After feed line is disconnected put over the grate for the drain.

Replace the cap on the tote discharge valve and lid on the top.

Use the pallet jack to remove old/empty tote and put new/full tote back in place.

Reconnecting full tote

After full tote is in place verify that the tote discharge valve is closed.

Remove the cap from the discharge valve and any foil that is sealing it.

Reconnect the feed line to the discharge valve.

Open the lid of the tote to vent and keep tote from collapsing.

Slowly open discharge valve and make sure there are no leaks.

Rinse down work area.

S.O.P. FOR RESETTING LEFT AND RIGHT SIDE MAIN BREAKERS

- 1. Push main breaker down to full open position.**
- 2. Turn off all Breakers on affected side. (Breaker handles down/open)**
- 3. Acknowledge all alarms on Main Computer Panel and on computer panel in office.**
- 4. Throw the Main breaker (close the switch).**
- 5. Turn on all affected breakers one at a time. (Close the breakers, handles up, switches to on if they have one.)**
- 6. Reset all alarms on Main Computer panel using master reset button on screen or master switch.**
- 7. Log the occurrence into the Plant notes and advise incoming operators of plant conditions**

SOP Polymer change out

Removal of empty tote.

Turn water hose on to run through the drain while this is being done.

Verify tote discharge valve and feed line are closed.

Begin to disconnect the feed line from the tote.

After feed line is disconnected hang up to prevent polymer from going everywhere.

Replace the cap on the tote discharge valve and lid on the top.

Use the pallet jack to remove old/empty tote and put new/full tote back in place.

Reconnecting full tote

After full tote is in place verify that the tote discharge valve is closed.

Remove the cap from the discharge valve and any foil that is sealing it.

Reconnect the feed line to the discharge valve.

Open the lid of the tote to vent and keep tote from collapsing.

Slowly open discharge valve and make sure there are no leaks.

Rinse down work area.

Starting the Headworks Generator

- 1. Hookup Electrical connections from Headworks Building to Generator.**
- 2. Turn on the Battery switch on the Generator.**
- 3. Turn on the Generator switch on the front of the Generator.**
- 4. Make sure the main breaker on Generator is off.**
- 5. Put Main Influent valve in off or local position.**
- 6. Make sure all Headworks operations breakers are off. (Bar screens, grit snail, Main Inf. valve, return pumps, and sump pumps) Leave all slide gate breakers in on position.**
- 7. Turn off Grit pumps at pump control disconnects.**
- 8. Turn off headworks Main Breaker at Panel.**
- 9. Start Generator.**
- 10. Manually switch Utility power breaker off and Generator power breaker on at switch gear.**
- 11. Turn on Generator main breaker on Generator.**
- 12. Turn on each Headworks operation, one at a time until all are on.**
- 13. Reset all alarms and watch for trip outs.**
- 14. To return to Utility power, perform all above steps in reverse order.**

Storm Event S.O.P

1. These procedures must be followed before the start of a storm event, whether it's a Hurricane, tropical storm, or just a thunderstorm or rain shower.
2. Every operator should look at the Weather radar online to ascertain the severity of any coming weather event.
3. Bar screens must be placed in hand to prevent any possible overflow of the head works building.
4. If rain amounts are expected to exceed the plant's effluent capabilities, operators must dial back the Main Influent Valve to a level that will prevent the SBR's from overflowing past 18 ft., i.e. From 22 mgd to 15 mgd.
5. All operators must inspect plant operations during storm events at least every two (2) hours by either driving or walking around the plant to visually confirm the plant is operating normally.
6. The filters must be placed in continuous backwash to prevent an overflow event at the filter building, even though this is a rare event.
7. Any and all operational difficulties must be communicated to the Superintendent, Assistant Superintendent or the Maintenance Supervisor immediately!