Pre-Start-Up Checklist

The list below includes items that should be completed prior to RMS arriving onsite for startup and training services. This will ensure we are able to utilize the majority of our time onsite to help optimize your roller mill's performance, and train operators.

Please include your electrician in the conversation to address any electrical requirements.

***RMS is not a licensed electrician, nor do we provide one. Customer is responsible for sourcing an electrician for any wiring needs, including the control panel (if applicable).**

- ☐ Is the feed roll going in the right direction? (Clockwise, when looking at gearbox side)

- ☐ Bump all motors to assure proper rotation (rotation of the arrows on the pulleys)

- ☐ Interlock on the system (for emergency shutdown)
  - Mill motors must be running before feed roll motor can start
  - Take-a-way auger should be running before starting Feed Roll and Scalper Assist
  - Scalper Assist starts and stops at the same time as the Feed Roll, along with speed following of the Feed Roll.

- ☐ Has mill motor starting sequence been programmed for proper startup and shutdown? (RMS recommends 10 seconds between the startup of each motor, and 30 seconds upon shut down, between feed roll and motors – Shutdown follows reverse order)
  Note: On Triple Pair machines with a double drive on the bottom set, the bottom set timing may need to be extended, due to the bottom rolls stopping prior to top and middle roll sets

- ☐ Ample product in the bin to grind upon startup

- ☐ Full connection of transition work and spouting, with appropriate gates between whole material bin and mill

- ☐ Connection of take-a-way equipment to mill and ground material holding bins
  - Ample space in holding bin for 1 to 2 hours of grinding

- ☐ Proper functionality of any mechanical conveyance to and from the roller mill, including proper startup/shutdown sequence

- ☐ If applicable – Ethernet connections for Watchdog and control panel.
  The Watchdog unit is a 24VDC circuit.

- Amp meters are required for each of the mill motors, to monitor amp draw. If there is an RMS control panel onsite, then separate amp meters are **not** required.

- VFDs provided by RMS come pre-programmed for the application. In the event a Current Following Feed Roll VFD is installed, site parameters might need to be adjusted.

- If a roll wear sensor is provided, it will be located on the back of the Feed Roll box. This is a proximity switch that detects if the rolls are being overfed. If there is an RMS control panel or current following VFD onsite, then the roll wear switch will be wired back to it. If no RMS control panel is onsite, then this should be wired back to a pilot light to alert the operator to slow down the Feed Roll.

- RMS provided Scalper Assist VFDs come pre-programmed with a torque limiting function to prevent mechanical damage of the Scalper Assist, in the event a large foreign object jams the paddle assembly.

- Pull charts will be provided for RMS control panels, to assist the electrician in knowing what devices tie into what systems. These will be provided by the RMS Project Manager as soon as available.

- If an auto-greaser is present, the power should only turn the auto-greaser on anytime the main grinding motors are running. This is a 120VAC 1A circuit.

- Soft start settings

  RMS does not provide soft starts, but typically recommends the following ramping program for our machines:

  Initial Voltage 50-60%, and Full Voltage for .2 seconds at the beginning of the ramp. This allows for any residual material to be pulled through the rolls without causing any nuisance tripping. This will not unplug a plugged mill, however. A plugged mill would require opening up the rolls to clean out any residual material.