

# PREVENTING ASPHALT PUMP STARTUP ISSUES

## MONDAY MORNING STARTUP BLUES

Most pump issues occur when a plant is started after a shutdown. Boilers and oil heaters are off, and asphalt solidifies in pumps, valves and lines. Before restarting, heating fluid, either steam or hot oil, is circulated throughout the plant's tracing system. Pumps are started, sometimes before the asphalt in the line downstream is fully melted. A pump is overpressured, parts are stressed, and it fails prematurely. If the plant shuts down every weekend, the chance of a Monday morning problem is multiplied.

## AN OUNCE OF PREVENTION

**Scenario:** Lines are "blown out" with steam prior to shutdown. While this helps prevent plugged lines at startup, this practice can damage a pump by causing it to turbine at speeds well beyond its rating, and lose lubrication at the bushings, causing premature wear.

**Viking Alternative:** Use the pump itself to strip the line by reversing direction of flow before shutdown.

**Additional "insurance" options include:**

- Use a jacketed relief valve on the pump head - as the pump starts against a restricted discharge line, it will bypass through the relief valve, while the poppet spring maintains downstream pressure without exceeding rated pressures on the pump or piping
- Soft starters or VFDs to prevent overpressure due to rapid acceleration
- V-Belt drive instead of direct couple to gear reducer or chain drive allows belts to "give" while lines are partially clogged
- Monitor system pressures, especially at startup, with gauges or pressure transducers. Suction side gauges can identify blocked suction lines (high vacuum reading), as well as air leaks into suction piping or empty source tank (low vacuum reading). Discharge pressure gauges can identify overpressure due to blockages. The difference between the two readings tells you differential pressure, which lets you ensure that the pump is operating within its rated pressure range.

## BAD ACTORS

If a pump has failed prematurely, odds are that there is a system design or operational issue that needs to be resolved, not a pump issue. Your Viking distributor can help identify and correct those problems to maximize your plant uptime and minimize your maintenance headaches.