# Critical Service CHEMICAL INJECTION 

Remote monitoring systems allow operators to 'manage by exception' by responding to system alerts when issues occur. This puts staff on site within hours of a detected issue. But what about those highly critical systems where even a few hours of system downtime can be detrimental? For these critical systems, Sirius offers multiple levels of system redundancy. These systems will 1) trigger alarms when anomalies are detected and 2) continue to operate using redundant hardware while staff is on the way. These setups leverage the unique capabilities of the Fusion2 pump controller.

## LEVEL 1

Two pumps are connected to a single controller, and both operate simultaneously. If one pump loses efficiency as noted by the InSight Smart Sight Glass, both motors increase rpm to compensate.

## LEVEL 2

Two pumps are connected to a single controller, each using an independent InSight Smart Sight Glass. Only one pump runs at a time. If the operating pump's efficiency falls out of specification that pump stops and the redundant pump starts.

## LEVEL 3

Two pumps are tied into two controllers each with its own InSight. Only one pump runs at a time. If the operating pump's efficiency falls out of specification
 that system stops and the second system starts.

## "Critical service needs to be addressed by first selecting the most reliable equipment, then address mechanical components that wear and finally electronics."

- Long life seal technology
- Dual seals
- Dual Heads when not required
- Feedback control to ensure proper rate
- Flow verification
- Alarms

|  | REDUNDANCY LEVELS |  |  |
| :--- | :---: | :---: | :---: |
|  | $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ |
| PUMPING PROBLEM <br> - Clogged filter <br> - Fouled valves <br> - Worn seals | YES | YES | YES |
| FLOW VERIFICATION PROBLEM <br> - Loss of calibration <br> -Sensor plugged |  | YES | YES |
| CONTROL PROBLEM <br> - Power supply <br> - Electronics got wet |  |  | YES |
| COMMUNICATION PROBLEM <br> -Wind storm |  |  | YES |

