Wireless Tailings Dam Monitoring Systems

Improve tailings dam safety and prevent environmental hazards utilizing wireless solutions.

Tailings Dams in Mining Operations

Although tailings dams are crucial to the mining process, there are numerous operational issues that must be monitored closely in order to prevent significant environmental accidents. Unfortunately, tailings dams can fail due to overflow or improper design and construction. If they become unstable and collapse, this may cause serious environmental and safety concerns that can impact nearby communities.

As the average grade of ore minerals declines, and the demand for metals by society increases, more waste per unit of metal is produced. This results in more and larger tailings dams which require stricter monitoring systems to avoid damage to the environment. Different local regulations require instruments to provide trigger levels that indicate unsafe conditions.

Through its digitalization strategy, Emerson has developed and validated a variety of wireless solutions which can help ensure the management and integrity of your tailings dams.

Monitoring Solutions for Tailings Dams

- **Tailings Stability**
  Provides real-time data direct to the control room to alert operators when the water level in the ground rises to take timely actions.

- **Pump Barge Monitoring**
  Keeps an eye on the pump system's health to ensure that it continues to function properly and recover water.

- **Slurry Pipeline**
  Online monitoring for pipeline anomalies that could cause an accident that would harm the environment and the tailings dam.

- **Solid Level Detection**
  Detects the level of different phases (slurries or solids) in the pond.

- **Valve Position Monitoring**
  Ensures that valves in the slurry pipeline are in the correct position.

The Value of Wireless

All these solutions rely on wireless native hardware and do not require wires or solar panels, which decreases costs and simplifies installation.

For more information, visit Emerson.com/IndustrialWireless or contact your local Emerson Sales Representative

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