

IRON MANAGEMENT: RFID ENABLES FASTER, MORE ACCURATE TRACKING IN VERACRUZ

SPM™ RFID Technology Helps Reduce the Effort to Maintain Iron Inventory



AT A GLANCE

SEGMENT

Well Service / Hydraulic Fracturing

CHALLENGE

Managing and tracking hundreds of iron components per job across a growing fleet created a time-consuming, error-prone process. Manual tracking delayed setup, complicated certificate access, and limited visibility into asset condition and failure trends.

SOLUTION

SPM RFID technology and Mobile App enabled faster, more accurate iron tracking without direct line-of-sight. Asset data, certificates, and inspection history became immediately accessible, allowing one worker to complete tracking in hours instead of days. Improved visibility into failure rates also supported more informed purchasing and quality control decisions—reducing nonproductive time and accelerating rig setup.

LOCATION

Veracruz, Mexico

Hydraulic fracturing poses a significant challenge to field and quality control teams when it comes to tracking and maintaining a fleet of iron. In Mexico, the typical amount of iron used during pumping operations is approximately 450 pieces. Testing and completion can require as many as 500-1,000 pieces of iron. Combine that with a rough, unforgiving environment, manual tracking becomes an extremely difficult, time-consuming, error-prone process that can negatively impact pumping hours.

The largest oil and gas player in Mexico, Grupo Núcleo SEPEC, has a rich heritage as a Mexican company founded by locals. The company has grown robustly with operations throughout the country. As the company has expanded, so has its iron fleet, which now numbers more than 2,000 pieces of iron at any given time.

With SPM Oil & Gas Radio Frequency Identification (RFID) technology, assets can be electronically tagged by serial number for safe and efficient inventory management, even when parts are difficult to access or shrink wrapped.

Tested for durability, RFID tags are installed on assets at SPM's manufacturing facility in Fort Worth, Texas. Tags are password-protected and are provided and installed for seamless use on other manufacturers' equipment.

Combined with the SPM Asset Management Program (AMP), inspection and tracking iron is more streamlined. Operators can track and recall information like certificates, historical inspection data and more on any piece of equipment anywhere around the world. Certificates, historical inspection data and other relevant information can be accessed in seconds. Personnel can easily update status or assign an asset to a hierarchical organization.

The SPM proprietary RFID Mobile App puts this power in the palm of your hand, eliminating transposed numbers and the misreading of data while producing certificates in an instant.

Tracking iron with a pen and paper was an especially painful process because quality control assigns each piece of iron three unique serial numbers—the OEM serial number, a group unit number and an internal serial number. Manual tracking meant frequent typos due to transposed or missed digits, complicated by equipment covered

in mud or facing hard-to-reach angles. Tracking iron manually typically required several employees several days to complete. With so many pieces of iron, presenting certificates upon arriving at a rig was also a challenge.

The company sought to reduce the amount of time to track iron while also positively impacting its quality control processes concerning certificates and accurate supply counts to speed the setup process and enjoy more pumping hours.

Grupo Núcleo SEPEC implemented the SPM RFID technology and RFID mobile app in its quality and warehouse departments to decrease the amount of time required to track iron and enhance its quality control team's processes onsite. With more than six years of experience using SPM's products and services, the company trusted the reliability of RFID solutions and mobile app.

Grupo Núcleo SEPEC experienced the benefits of SPM's RFID solution in the short-term and it has produced operational and financial advantages in the long-term. The ease and accuracy of the RFID system enabled the company to realize significant reductions in non-productive time and marked improvements in quality control processes. Rather than utilizing multiple workers over several days to track iron, the RFID system enabled this task to be accomplished by one worker in a few hours.

Quality control was now able to produce certificates instantly at rig sites and knew immediately which pieces of iron were available for use, enabling faster setup.

The RFID system produced an additional benefit for quality control. It enabled them to easily track failure rates, empowering their purchasing decisions. Reordering parts with the greatest reliability resulted in greater efficiency and pumping hours in the field.

"We've experienced improvements in controlling our iron by adding the RFID solution," said Humberto Barrientos, Warehouse Supervisor at Grupo Núcleo SEPEC. "This has improved the traceability of components in Grupo Núcleo SEPEC. One of the many benefits we've experienced is the ability to perform the reading without contact and without needing a direct visualization of the reader in the parts that are installed in the operating units (High Pipe). This saves us a lot of time"