

## ARTIFICIAL LIFT - ELECTRIC SUBMERSIBLE PUMPS (ESP)

- Mechanical engineering
- Process engineering
- Structural engineering
- Instrumentation & controls engineering
- Design & drafting
- Document control
- Procurement

Federation Engineering has converted many wells from Progressing Cavity Pumps (PCP) or gas lift to Electric Submersible Pumps (ESP). This strategy allows our clients to achieve a higher well flow rate and improved reliability compared to the old system. Additionally, the ESP system allows for real-time monitoring of well conditions, which enables the client to make informed decisions about well management and maintenance.

The conversion process includes replacing the existing PCP or gas lift system with an ESP system, which involves the removal of the existing VFD (variable frequency drives) and PCP, installation of an ESP motor, new VFD, step-up transformer, and associated piping. The upper lift / production wellhead assembly was also replaced.

This conversion is just one example of our ongoing commitment to innovation and optimization. We are constantly exploring new ways to support our clients in improving their operations and maximizing the value of their assets.

