CASE STUDY

HALLIBURTON

United States

Hercules™ HPS supports long-term reliability at high-flow crude transfer terminal

Nearly seven years of continuous operation helps sustain throughput at critical pipeline junction

CHALLENGE

- Increase crude transfer capacity
- Maintain long-term operational reliability
- Integrate with existing pipeline systems

SOLUTION

- Deploy two Hercules 950 series HPS units
- Configure parallel operation with existing pipeline
- Operate in parallel with 8 existing HPS systems

RESULT

- Delivered 19,850 runtime hours
- Maintained original pump barrel for close to 7 years
- Withstood high-flow crude transfer demands under variable conditions
- Supported uninterrupted throughput at critical crude transfer hub

Overview

In August 2017, a midstream operator installed two Hercules™ horizontal pumping systems (HPS) at its West Texas crude oil transfer station located at a major junction where two Gulf of America pipelines converged. These units were part of a strategic infrastructure upgrade to increase pipeline throughput from 210,000 to 300,000 barrels per day. The installation marked the operator's first use of Summit ESP®, a Halliburton service, and included one of the earliest 950 series pump designs.

After 2,493 days— nearly seven years—of continuous service, the operator removed one pump following a decline in production. A teardown confirmed approximately 19,850 runtime hours with regular maintenance and no need to replace the original pump barrel. A seal change performed in July 2024 introduced foreign debris that ultimately led to unit failure. Inspection results demonstrated the system's ability to maintain mechanical integrity during extended operation in high-flow crude transfer environment.

Challenge

The customer aimed to expand its crude oil transfer capacity at this terminal while maintaining operational reliability across multiple HPS systems. The site's complexity—featuring 13 HPS units and two major pipelines—required equipment capable that could handle high flow rates and operate continuously under variable conditions. Any new equipment introduced at the site had to operate reliably alongside established systems without disrupting throughput or maintenance schedules.

SUMMIT ESP

A HALLIBURTON SERVICE

Solution

Halliburton deployed two 950 series HPS units equipped with 16-stage pumps, 5-in. shafts, and compression configurations. The Hercules™ horizontal pumping systems were configured to operate in parallel with eight existing HPS units and deliver flow through a shared discharge header. The engineered design, which included heavy-duty AR-series bearings, robust shaft assemblies, and high-efficiency hydraulic stages supported stable operation under continuous high-load conditions. Advanced thrust-handling capability and optimized axial load distribution reduced internal stresses, and supported long-term component integrity.

Result

The Hercules HPS system supported nearly seven years of continuous operation with minimal maintenance, which allowed the operator to maintain uninterrupted crude transfer operations. No intervention was required until a scheduled seal replacement in 2024, which was initiated by production decline rather than equipment failure. A detailed teardown confirmed that the pump remained in its original form with minimal wear on critical components due to foreign debris introduced during the seal change. Inspection findings showed the durability of the Hercules HPS system to maintain mechanical performance over extended operating periods. As a result, the operator maintained reliable, high-flow crude transfer at a critical pipeline junction while reducing the risk of unplanned downtime.

Hercules 950 series SN35000 pump systems ready to ship, prior to installation at West Texas crude oil transfer station.

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