SPECIAL SERVICES

CUDD ENERGY SERVICES

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PROVEN EXPERIENCE. TRUSTED RESULTS.
Engineered solutions for complex pressure situations

Cudd Energy Services (CES) delivers custom engineered solutions to resolve complex pressure situations resulting from equipment failure or trapped pressure, including cold and hot tapping, gate valve drilling, freeze operations, wellhead removal and wellhead support systems. Our solutions are adaptable for onshore and offshore well intervention applications and are designed to reduce operating costs, minimize downtime and minimize environmental concerns.

Benefits

• High-pressure/high-temperature capabilities
• Extensive experience in pressure control supported by a highly experienced and diversified Engineering Team
• Suitability for non-piggable systems
• Comprehensive training program to ensure efficient and safe operations by qualified personnel
• Strategically located to respond quickly
SURFACE COLD AND HOT TAP OPERATIONS

Cudd Energy Services (CES) has the ability to perform cold and hot tapping on lines and vessels containing water, oil, gases, steam or other chemicals in onshore and offshore applications. Cold and hot tapping is the process of safely drilling into a pressurized tubular or vessel without discharging contents, allowing a controlled means to bleed off the trapped pressure.

CAPABILITIES:
- Rated up to 10,000 psi for H₂S environments
- Tap coiled tubing, production tubing, casing, bull plugs and drill pipe
- Provide an entry to pump fluid conduit for freezing applications
- Entry to pump fluid conduit to perform kill operations
- Leak-proof entry technology
- Drill up to 1 in. diameter (larger sizes available upon request)
- Specialized engineered saddles for unconventional applications
Cudd Energy Services' gate valve drilling unit is capable of drilling out valve seats in an environment with 15,000 psi working pressure and hydrogen sulfide (H₂S). The unit incorporates a pressure equalized loop design and can be remotely operated. The design allows the user to more effectively control the advance speed as the bit force is isolated and independent of the wellhead pressure. The equalized loop design uses stainless steel valves and gauges, as well as a high pressure flexible hose to control, equalize, and bleed off pressure. The high bit output torque of 800 ft-lbs allows for continuous and speedy drilling with less stalling than other types in the industry. Another feature is that the packing has been specially designed for harsh working environments.

**CAPABILITIES:**
- Full-bore and pilot holes up to 3 in. diameter (larger sizes available)
- Tree scale removal using pump through high-velocity wash nozzles
- Extended reach capabilities up to 30 feet
- Ceramic, stainless steel and calcium-plated drilling
- Leak-proof entry technology
- Able to drill multiple gates on a single wellhead
- Regulated bit speed and applied torque
Cudd Energy Services delivers a range of freeze applications, including dry ice and cryogenic freeze operations. CES is capable of freezing all pipe and valves sizes and can maintain a plug based on the customer’s requirement. Positive pressure tests and engineering calculations are routinely performed to ensure the integrity of the plug for different pressure environments. Our pressure capabilities for freeze operations range up to 15,000 psi.

Pipe freeze plugging is a simple, cost-effective method to perform pipe maintenance and line modification. Successful pipe freezing is accomplished by establishing and maintaining a solid freeze plug throughout the operation. When implemented in this manner, the freezing operation can be performed with minimal interference to the project timeline and limited financial impact. Dry ice and liquid nitrogen freezing are two methods used in freezing operations to isolate wellheads, valves, and other equipment from sub-surface and upstream pressure.

CAPABILITIES:

- BOP (with or without failure)
- Valve (with or without failure)
- Check valve failure
- Plug failure
- Pipeline entry
- Lubricator failure
- Stuck wireline tool
- Lubricator swap
- Repair of BOP and surface valves
- Plug and abandonment (P&A)
- Secondary barrier
- BOP additions
WELLHEAD REMOVAL

Cudd Energy Services provides a range of options for wellhead removal services. Our pneumatic casing cutter and hydraulic sand cutter have the ability to cut various sizes of tubing and casing under pressure. The hydraulic nut splitter enables the removal of rusted, immobile studs. The hydraulic flange spreader removes seized flanges.

CAPABILITIES:
- Casing cutting to fit wellhead
- Removal of pressurized casing/tubulars
- Casing cutting on drilling rigs with oil-based mud and flammable fluids
WELLHEAD SUPPORT SYSTEMS

The system transfers the induced loads away from the wellhead to the ground while maintaining wellhead and cement bond integrity on older wells. The system can serve as a simple redundancy or can account for incremental preload, individual cylinder leveling and additional loading as needed for the specific application. Examples of induced loads are hydraulic jack weights, BOP stack weights, and additional hook loads required to perform remedial work. Incremental loading prevents exceeding allowable uplift loads that may be imparted to slip on wellheads. The system’s versatility allows for installation around and over obstructions such as cellars, exposed sales lines, and tree valves while maintaining a balanced load.

CAPABILITIES:

- Prevent buckling in cellars
- Ability to hydraulically adjust for soil subsidence and compaction.
- Mechanical fail-safe backup
- Systems rated at 200,000 lbs and 400,000 lbs (3:1 SF)