

Fleet Care

Stacking Programs

Assessment, Preservation and Reactivation

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Caring for your Fleet

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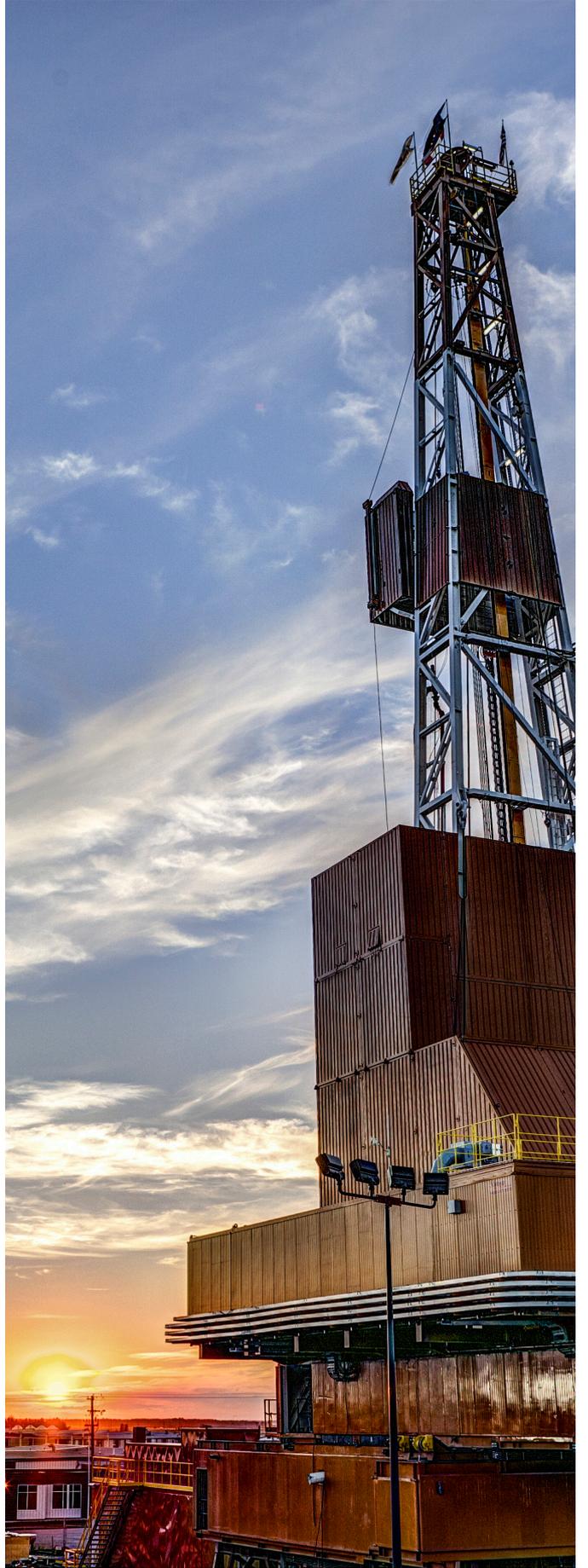
Our dedicated team will help you plan your assesment, preservation and reactivation needs during stacking periods, to enable you to meet your objectives and financial performance. With thousands of pieces of equipment around the world, we understand that caring for your equipment when it is not in use is just as important as caring for it when it is drilling. Let us use our competence, knowledge and integrity to keep your fleet ready to drill.

Our experts are on hand to help you:

- **Identify and manage the scope of work**
- **Assist in the critical path of identification and planning**
- **Ensure risk mitigation**
- **Help with on-time and on-budget delivery**
- **Maintain the highest quality results**
- **Manage Certificate of Conformance requirements**
- **Support warranty extension / deferment requirements**



- Reduced reactivation time and cost through proactive project management, ensuring the optimal solution for your fleet needs during stacking periods.
- Global network of trained and competent OEM experts to support you wherever your rigs are stacked.
- Subject matter experts to help design and support your stacking program, ensuring your rigs are up and running optimally when and where they are needed.
- High level of quality assurance to meet the industry requirements for safe and efficient drilling.
- Superior supply chain for spare parts to ensure you get the right part when you need it.



Stacking Options

We have designed a customized Stacking Program for both warm and cold stacked rigs to ensure the integrity of your OEM equipment between contract periods and seamless transitions from stacked to ready for operation.

Warm Stacking

Working with NOV's team of experts means that when the rig is ready for reactivation, we have already ensured that the equipment is prepared to get back to work. Warm stacking ensures your equipment is continuously maintained, operated and assessed throughout the stacking period with monthly OEM reports detailing recommended spares and repair requirements. Warm stacking allows flexibility in the stack period. The rig can be reactivated and made ready for contract quickly and efficiently with little effort and overhead.

Cold Stacking

We work with you to prepare a detailed work scope for the effort required to stack the rig. Our trained experts will help you preserve all your equipment and support routine inspections and turning crews to safeguard your investment. Our goal is to ensure a timely reactivation with the primary aim of reducing the duration from stacked to fully operational.

Warm Stacking vs. Cold Stacking:



Warm

- Low preservation costs
- Operational / maintenance costs
- Low reactivation costs
- Ensures equipment integrity



Cold

- High preservation costs
- Minimal operational / maintenance costs
- High reactivation costs and duration

Did you already cold stack your rigs? We offer a complete service that includes all the necessary stages to reactivate your rigs for contract.

Stacking Services

Assessment of types of stacking

Deciding whether to warm or cold stack your rig and what preservation measures need to be taken is critical.

Our team of OEM experts will conduct a thorough inspection and assessment of your equipment and help you decide what makes sense for your rig, based on market opportunities. Together we can determine a complete package that will provide you with the proper measures for preservation, stacking and eventually reactivation for use.

The assessment will result in a detailed report on equipment condition with recommended spares and effort required to repair equipment. Once the assessment is complete, we offer the following Stacking Services:



Warm Stacking

Cold Stacking

Preservation

Preservation is not as detailed as in a cold stack situation as the equipment must be left serviceable and available to be functioned. Volatile corrosion inhibitors (VCI) will be added to gearboxes and fluid systems and then circulated. No hoses will be disconnected or removed. Power will be left applied to all equipment and motor heaters.

Preservation is extremely detailed and involves preparing the equipment for long term storage without power. Equipment will be cleaned, filled with volatile corrosion inhibitors (VCI), hoses and piping isolated and equipment covered and protected from the elements.

Maintenance/ Operation

Warm stack maintenance requires that all equipment is moved on a regular basis throughout its operating envelope. This requires a competent person with knowledge of the driller's operating station to run the tools. In addition to functioning the equipment regularly, maintenance will be executed where tools will be lubricated and equipment inspected. VCI may be topped up or changed out based on duration of stacking period and VCI shelf life.

Cold stack maintenance is very limited and involves crews of personnel attending the stacked rig at monthly or quarterly intervals to assess the condition of the preservation of equipment and execute turning routines where motors and gearboxes are rotated by hand to ensure bearings are moved. VCI may be topped up or changed out based on duration of stacking period and VCI shelf life.

Reactivation

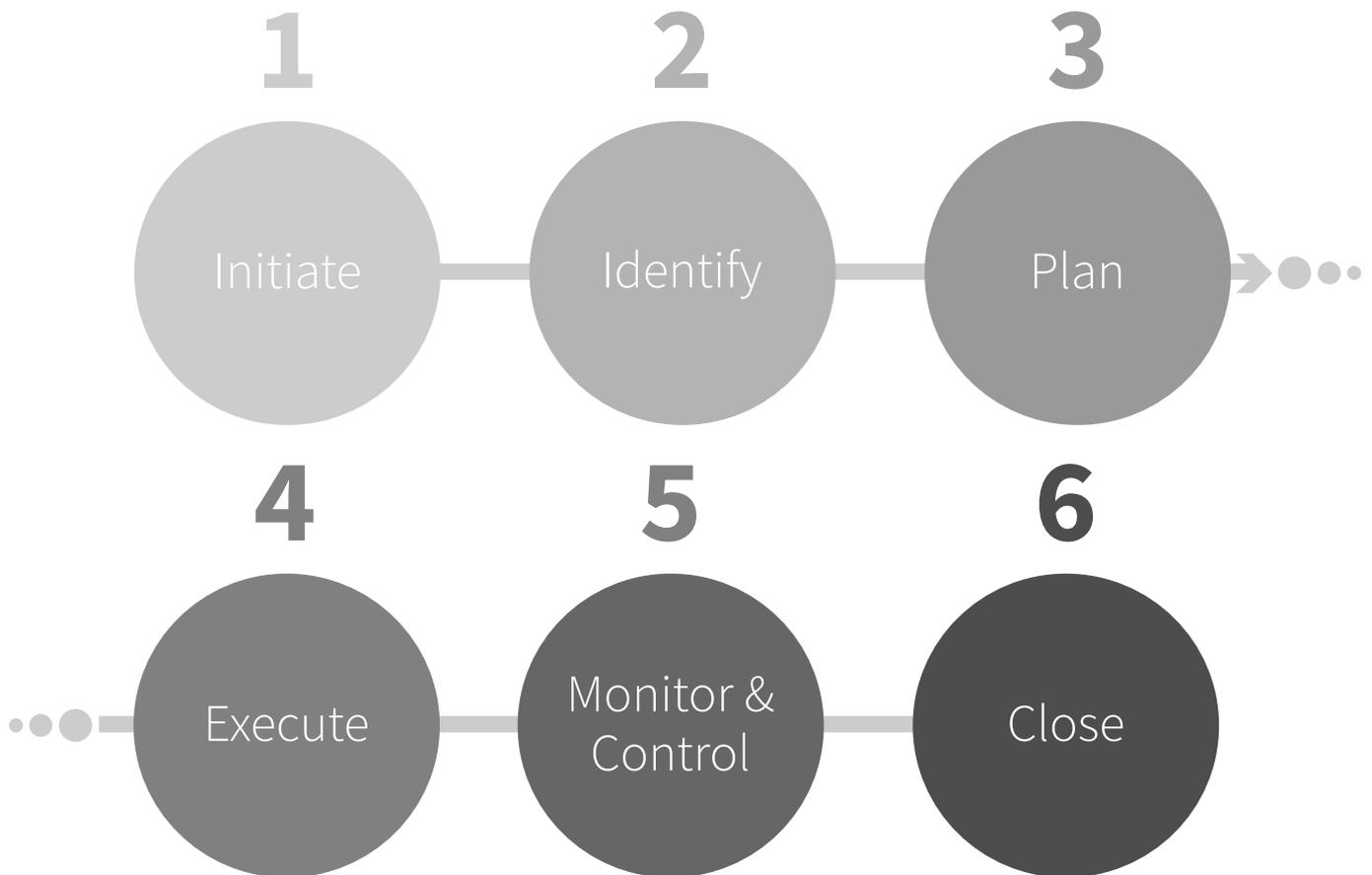
Warm stack reactivation requires significantly less involvement than cold stack reactivation. All preservation is removed and in some cases fluids will be replaced. In certain situations, equipment can be brought back to service with VCI products and changed out at a later date at the end of the VCI life.

Cold stack reactivation requires comprehensive, detailed planning and sufficient time to be allocated to allow an effective execution. A cold stack reactivation should identify minimum spares required and ensure these are ordered and available in time for the reactivation to commence. In addition to spares, consumables should also be available onsite to allow fluids to be changed out and equipment to be operated and lubricated per equipment start up procedures.

Acceptance

Acceptance of the equipment is essential to ensure that reactivated equipment meets the same (or better) quality requirements as before the program started. Our ultimate objective is to ensure that your equipment is cared for throughout its lifecycle and performs according to your acceptance standards.

Execution Process



Dedicated Project Management Team

We work closely with you to help manage your unique needs during stacking period and provide support through the NOV corporation before, during and after the project. Our experienced team manages scope identification, critical path, risk mitigation, on-time delivery, on budget delivery and quality.

Benefits:

- **Simple and seamless communication** through the entire project, with a single point of contact that brings all our expertise together.
- **Improved efficiency** in delivering services, shortening the time required for your project.
- **Reduced risk** by identifying and managing potential problems before they occur.
- **Saved effort** and cost through proactive scope management.
- **High level of quality** to ensure results meet requirements and expectations.
- **Optimal solutions** to meet your unique challenges – keeping your rig and equipment running on time and on budget.

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