



## Advance Coiled Tubing Application

**Course Duration** : 5 days

**Date** : 04-Nov-2024 to 08-Nov-2024

**Location** : London

**Type of Participant** : Well interventions or well services supervisors, operations or field Engineers, coiled tubing supervisors and operators, sub-surface engineers, production engineers, drilling engineers, completion engineers, and those professionals willing to expand their knowledge in coiled tubing and nitrogen interventions planning, design and/or execution.

### Summary:

Coiled tubing (CT) plays a vital role in the petroleum industry, offering versatile applications such as drilling, cementing, wellbore cleanup, oxidizing, and hydraulic fracturing. Despite its benefits, challenges like excessive frictional pressure loss due to the small diameter and curvature of the tubing can limit fluid injection rates. This makes it crucial to understand the flow regularity and friction properties in coiled tubing operations. This course provides a comprehensive overview of coiled tubing, including its components, tools, and the various operations it supports. Participants will gain insights into the tools that ensure successful coiled tubing operations and the key components that enable the tubing to endure the demanding conditions of the oil and gas environment.

### Objective:

By the end of this coiled tubing course, the participants will be able to:

- Plan, design, manage, and execute interventions utilizing Coiled Tubing.
- Enhance operational performance during the various interventions using Coiled Tubing applications.
- Explain the recommended procedures for different Coiled Tubing field



situations and applications.

- Discuss the proper pressure control system for any given situation.
- Learn about the most commonly used downhole tools and explain their properties.
- Understand how to calculate and define string limits for Coiled Tubing.
- Learn how to work safely with liquid nitrogen.

### **Contents:**

#### **Background of Coiled Tubing Technology:**

- The historical development of coiled tubing technology.
- Coiled tubing package components, operational procedures, and limitations, well control principles.
- Troubleshooting procedures.
- Hydraulic applications that involve the circulation of fluids.
- Mechanical services that involve the downhole conveyance of required tools or equipment.
- Electrical services employ downhole tools powered by or transmitted through an electrical cable.
- Completed permanent applications with coiled tubing installed either as the producing conduit or as a part of it for flow control or other requirements (e.g., ESP conveyance).

#### **Pumping Services in Coiled Tubing Operations:**

- Fluid displacement (nitrogen lifting).
- Reservoir oil and gas well improvement (acid washing/stimulation).
- Acid washing.
- Acid stimulation (matrix acidizing).
- Fill cleanouts (sand removal/pressure jetting).
- High-pressure jetting.
- Remedial/abandonment services (sand consolidation/cementing).





- Chemical sand consolidation.
- Cementing in coiled tubing oil and gas scenarios.

### **Work String Components and Services:**

- Drilling/milling as a coiled tubing application.
- Underream (within a cased hole).
- Fishing operations using coiled tubing technology.
- Coiled tubing slick line operations.

### **Stiff Wire line and Coiled Tubing Integration:**

- Log procedures facilitated by coiled tubing.
- Perforate in the realm of coiled tubing engineer expertise.
- Utilise down hole video cameras in coiled tubing inspections.

### **Completions with Coiled Tubing Deployment:**

- Manufacture and understand production and velocity strings.
- Production strings and their function.
- Injection strings - what is coiled tubing's role?
- Implementing tubing patches.