



# Training

in ToreTrap Desanding Hydrocyclone technology, operation, and maintenance.

## Course objective

To provide technical knowledge of the ToreTrap Desanding Hydrocyclone enabling successful operation (including start-up, shutdown, troubleshooting), and maintenance.

## Who should attend?

Engineers, operators, and technicians working on production units.

## Upon completion of the course, participants will know the following:

- Fundamentals of cyclone separation
- Principles of cyclones and understanding their limits
- Optimal operation of main equipment
- How to monitoring performance of process
- Startup and shutdown
- Maintenance of main equipment

## Deliverables

- Training documentation
- Training execution
- Workshop participation

## Location

Selected NOV training centers or client preference. Training can also be offered online.

## Duration

1 day

## Contact

[wellstreamprocessing@nov.com](mailto:wellstreamprocessing@nov.com)

## Training course includes

- Training by experienced technology personnel
- 1 days training for up to 10 trainees
- Hard and soft copies of training material in English

## Course content

### Welcome

- Safety moment
- Review of agenda
- Course objectives
- Introduction of participants and their expectations

### Safety

- Understand how system and process changes may impact process safety

### Equipment description

- Process design basis
- Understanding key process parameters and limits
- Understanding the limits on cyclone
- Correct handling of ceramics

### System control

- Review of PFD
- Operational philosophy
- Turndown and number of liners

### Sample analysis

- Sample points
- Sample methods used
- Sampling for performance monitoring

### System performance monitoring

- Understanding pressure/flow relationship and its importance in operation
- Methods of checking performance
- Problems that can occur

### Instrumentation

- Continuous level measurement with nucleonics
- Tuning forks and their envelopes of operation
- Sand and the effect on your separator levels

### Maintenance and start-up and shutdown

- Maintenance plan
- Start-up and shutdown
- Spare parts management

### Evaluations

- Q&A session
- Review – have the learning objectives been met
- Evaluation of course

