

NORSOK STANDARD

SYSTEM REQUIREMENTS
CRUDE OIL SEPARATION AND STABILISATION
SYSTEM NO. 20

P-SR-002
Rev. 1, December 1994

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1. FOREWORD

This standard has been developed by the NORSOK Standardisation Work Group.

2. SCOPE

3. NORMATIVE REFERENCES

NORSOK Standard

P-DP-001

Operational Principles

P-CR-001

Process Design.

4. DEFINITIONS AND ABBREVIATIONS

4.1 Definitions

4.2 Abbreviations

5. FUNCTIONAL REQUIREMENTS

5.1 General

Stabilize and dewater crude oil to export specifications.

5.2 Products/Services

Pipeline export

Shuttle tanker export

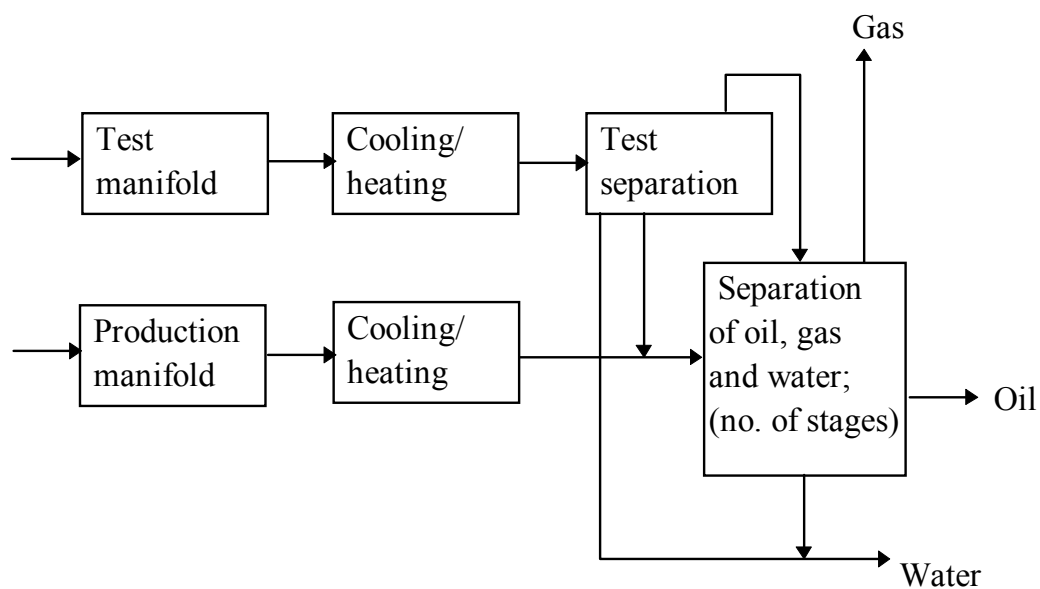
Pipeline specific

Oil RVP of maximum - 11 psi (0,79 bar)

Water in oil - 0,5 %

Oil in water - 2 %

5.3 Equipment/Schematic



5.4 Performance

System Capacity	Project specific
Operating Life	Project specific

5.5 Regularity

5.5.1 Regularity

99 %.

5.5.2 Training/sparing

Normally one train, no spare. Test separator shall facilitate operation as first stage separator.

5.6 Process/Ambient Conditions

System can be located in open air.

5.7 Operational Requirements

Control and Monitoring: From CCR totally as follows:

OS/VDU Functions	P	T	L	F	A	Other
Manifolds	M	M			X	
Test Separator	C ¹⁾	M ¹⁾	C	M ¹⁾	X	¹⁾ = To be recorded
1./2./3. Separators	C		C		X	Auto to Flare
Heater/Cooler		C			X	
Coalescer			C		X	

P = Pressure/Discharge Pressure, T = Temperature, L = Level, F = Flow,
A = Alarm, M = Monitoring, C = Control, X = Alarm available.

5.7.1 Jet water

When sand production is likely, separator(s) shall be equipped with jet water manifold/nozzles. Jet water shall be supplied from one of the following sources, in following priority:

1. Produced water (if available).
2. Fresh water (requires evaporator-produced water).
3. Seawater (requires injection of antiscaling chemicals).

5.7.2 Heat tracing

All bridges and field instrumentation shall be fitted with heat tracing and insulation.

5.7.3 Robustness

Pressure control shall handle unplanned gas compression shut down.

5.8 Maintenance Requirements

- Full-flow bypass shall be installed across all Level Control Valves (LCV's).
- Bypass piping shall be installed across heaters, coolers and coalescer.

5.9 Isolation and Sectioning

5.9.1 Test separator

Flow measuring devices will require frequent maintenance and shall be provided with isolation valves.

5.9.2 Manifolds

Flowlines shall be accessible for maintenance and hook-up without shut-down of manifolds.

5.10 Layout Requirements

Separators should be grouped together and elevated to avoid cavitation in export pumps. Level control valves should be located to avoid flashing upstream the valves.

5.11 Interface Requirements**5.11.1 Chemicals**

Individual injection points shall be installed on manifolds and upstream all separator inlets for antifoam. Emulsion breaker and other chemicals shall be provided for on manifolds.

5.12 Commissioning Requirements

Piping shall be fitted with high point vents and low points drains.