Revision:	Date:	Reason for issue:	Prepared by:	Verified by:	Approved by:
02	09.08.2019	Final	Ø. Prytz A. Mork	K.M.T Pedersen	J.T.Ø Nakhleh
01	08.08.2019	For Review	Ø. Prytz A. Mork	K. M.T. Pedersen	J. T.Ø. Nakhleh

Title:

Weatherford Verification Report

Document number: SHRK-PGNiG-S-RA-0127

Contents list

Abbreviations

Abbreviations	
DSN	Deepsea Nordkapp
HSEQ	Health Safety Environment Quality
LAA	Limited Assignment Agreement
NPT	Non-Productive Time
P&A	Plug and Abandonment
PUN	PGNiG
PSL	Product Service Line

1 Introduction

1.1 Executive Summary

Following this year's planned Shrek exploration well for PUN a verification of Weatherford P&A and Liner services for the Shrek well with Deepsea Nordkapp (DSN) was performed to ensure a high level of quality and commitment to deliver a first-class performance for the Shrek well. Focus for the verification has been on operational preparedness, personnel competence, HSE reporting and implementation of lessons learned.

No non-conformities were found, 1 improvement suggestions and 1 follow up action were registered.

Reference is made to the notification sent 18th July 2019 with regards to the joint verification of Weatherford between PUN, DNO and Well Expertise.

The verification was conducted 1th August 2019, 09.00 – 12.00 at Weatherford premises at Forus.

1.2 Verification Objective

The main objectives of the verification were:

- Verify that Weatherford operational preparedness and technical expertise is in accordance with Well Expertise's frame agreement with Weatherford, limited assigned to PUN for the duration on the well (limited assigned agreement, LAA)
- To perform PUN's, see-to duty of Weatherford with regards to the Shrek well
- Confirming that Weatherford management system and organization is in accordance with PUN and Well Expertise's expectations with regards to robustness and HSEQ follow up

1.3 Participants

DNO/Well Expertise Canela Verification Audit – 01.08.2019			
Role	**Name**	**Position**	**Company**
Verification Lead	Kjetil Vastveit	Senior Drilling Engineer	DNO/Well Expertise
Technical Auditor	Øystein Prytz	Senior Drilling Engineer	PGNiG/Well Expertise
QHSE Auditor	Anne Mork	Senior QHSE Advisor	PGNiG/ Well Expertise
Auditor	Grethe Lønø	Senior Drilling Engineer	DNO
Auditor	Elisabeth Vik	Drilling Engineer	DNO/Well Expertise
Auditee	Nikolay Oleksyuk	QHSE	Weatherford
Auditee	Jan Morten Bretting	Application Manager (LH)	Weatherford
Auditee	Idar Westergård	Operation Supervisor (ISDT)	Weatherford
Auditee	Andre Hersdal	Project Engineer and Contact Person (P&A)	Weatherford
Auditee	Audhild Bergtun	QHSE	Weatherford
Auditee	Geir Egil Olsen	Branch Director Norway	Weatherford
Auditee	Arve Falch	Tubular Running	Weatherford

2 Findings

2.1 Deviations

Verification performed according to plan.

2.2 Warrant

The verification is warranted in the Shrek Verification Plan and the Well Expertise Audit Plan for 2019.

The verification is based on PUN supplier risk assessment and Well Expertise's service supplier criticality matrix which requires a verification of Weatherford P&A services prior to start-up of the Shrek operation.

2.3 Non-conformances

There were no non-conformances registered during the verification.

2.4 Improvement suggestions

Item	Description	Suggestion
1	The operation management system for P&A incl. all steps and interfaces in planning face such as design review, WO, risk assessment, transfer of experience. However, the access is through a database, not a web-based system available for offshore crew.	Weatherford should evaluate web-based system such as PROM TRS planning database.

2.5 Follow up actions

Item	Actions	Responsible for follow up
1	Check maximum length of basket allowed shipped to the rig. If allowable basket length is sufficient, evaluate to stuff the liner plugs onshore based on the timing of the job and shipment of equipment.	Øystein Prytz

The follow up action and improvement suggestion are transferred to the PUN 2019 Audit, Review and Verification Register, stored on Projectplace for further follow up: https://service.projectplace.com/pp/pp.cgi/r1588228898.

2.6 Scope of work with answers and comments

Id.	Reference	Finding	Category I / O / D
1.0	**Presentation of DNO/Canela well, PGNiG/Shrek well, and Well Expertise. Current Status.**		
1.1	Intro	Nikolay and Kjetil.	
Weatherford P&A, casing running and liner hanger verification 01st August 2019			
2.0	**DNO/PGNiG/WE verification of Weatherford Service Delivery**		
2.1	Support	Weatherford Norge AS are ISO 9001:2015 and ISO 14001:2015 certified. Company management system (OEPS) was presented for the auditors. In addition to corporate policies, procedures and processes, OEPS included specific work processes and procedures per Product line (PL). Auditors were impressed by the operational planning systems for both P&A and liner hanger services. All interfaces, SoW, QC, activity plan, risks management, equipment, best practices and lessons learned are handled and available for all project members. Auditor was presented to the company incident management and follow up system as well as to an example of transfer of experience from latest lessons learned. Weatherford has no experience with Deepsea Nordkapp and no HSE statistics from the rig as such. • Lessons learnt and implementation of lessons learnt. Please provide example. Example shown from the Transocean Arctic P&A 2019. • Statistics and performance on NCS Statistics and performance on NCS shown	
2.2	Personnel	Weatherford to do a quick summary of: • Selection of personnel to support to PGNiG for the Shrek well. • Relevant competence and training. • Assurance that the Coordinators are following the project through. During audit Weatherford verified that experienced offshore personnel are available for Shrek operation. All offshore	

		personnel are Weatherford employees. Weatherford presented their competence management system which included competence profile incl. core training and specific training on all employees. Average seniority of offshore personnel: • P&A: 14 years • Liner Hanger: 17.5 years Dedicated coordinators: Liner – Lasse Horpestad P&A – André Hersdal	
2.3	Equipment	Weatherford to explain process for • quality control of equipment incl. maintenance, certification, correct equipment e.g. - The Weatherford Product Excellence and Performance (PSRP) service realization process is designed to ensure operational excellence and performance and outlines the process from job planning and equipment sourcing, through equipment preparation, shipment, selection of personnel and job execution and reporting. - The individual services Operation Management System (OMS) ensures a design review is conducted and sales and rental equipment are identified based on the input requirements from the customer and work scope. - The OMS is used by project engineers and the workshop as an integrated tool. • Weatherford to explain how to ensure equipment availability P&A: - Per now they have capacity in ISDT. - Can handle 30% increase. - We have Min/Max on all the equipment, this means that if the quantity is less than Min new equipment will be ordered. - Equipment planned well in advance of a job.	

		- Equipment completion day is set 3 days before Load out date to get time for outgoing inspection and complete paperwork. Liner: - Per Now Overcapacity in Liner department - Can handle 30% increase (from 10 - 13 jobs per month) - Using local manufacturing - Inhouse Engineering group in Norway - Equipment ordered / planned well in advance of a job - Equipment completion day is set 3 days before Load out date to get time for outgoing inspection and complete paperwork	
4.0	**PGNiG/WE verification of Weatherford P&A**		
4.1	P&A operations onboard Deepsea Nordkapp	Weatherford P&A has not performed any jobs on Deepsea Nordkapp yet. Please explain possible risks on Deepsea Nordkapp for P&A operations. C&P 9 5/8" Casing: Handling on drill floor – focus on body and hand positioning Gas peak during cut-through – Float in BHA, Close annular preventer– circ kill or choke Not able to release "Fish" on drill floor – Back load to WF for release onshore C&P 20" x 36" WH: Handling heavy equipment on drill floor – focus on body and hand positioning Not able to pull free WH after cutting – Shallower cut	
4.2	QA / QC	Please verify internal procedure checking and measuring equipment prior to shipment (sizes, spaceouts, cutters suited for casing type to be cut, etc). During Weatherford's presentation of the operational planning system, procedures and QA/ QC of equipment were presented to auditors and found to be in compliance.	
4.3	Personnel competency	Weatherford is expected to supply with experienced offshore personnel for the jobs at Deepsea Nordkapp. Please verify. During audit Weatherford verified that experienced offshore personnel are available for Shrek operation. All offshore personnel are Weatherford employees. Weatherford presented their competence management system which included competence profile incl core training and specific training on all employees.	

		Average seniority of offshore P&A personnel is 14 years.	
4.4	AOB	Please present any other concerns or questions you might have to ensure a safe and efficient operation.	
6.0	**PGNiG/WE verification of Weatherford liner hanger services.**		
6.1	Liner hanger operations onboard Deepsea Nordkapp	Weatherford liner hanger has not performed any jobs on Deepsea Nordkapp yet. Please explain possible risks on Deepsea Nordkapp for liner hanger running. Weatherford has highlighted the following possible risk of Damage of equipment: Weatherford Offshore service engineers to be on drill floor when handling Liner equipment and when Liner hanger assembly goes through BOP/WH area. Also when circulating, rotating and running in open hole and when pulling running tool out of hole (going through tie-back gap and Well Head/BOP) Liner Setting area: Do not set hanger/packer in shoe track/coupling and in drilled out cement area. The risk is that the hanger may not properly set, and the packer element may not seal against the casing wall Semisub rig: Ensure rig aligned over WH when running through with liner hanger assembly. Follow operational heave limitation Drill pipe: The drill pipe used in landing string must be drifted to ensure drill pipe darts and ball can reach plugs and ball seat. The whole string should be drifted according to drill pipe specifications or minimum ID of each size of drill pipe. Time of mobilization: Important that the offshore personnel is called out early to ensure sufficient time for planning and efficient operations, especially since no previous operations on DSN.	
6.2	QA/QC	Please verify internal procedure checking and measuring equipment prior to shipment (sizes, spaceouts, etc). During Weatherford's presentation of the operational planning system, procedures and QA/ QC of equipment were presented to auditors and found to be in compliance.	

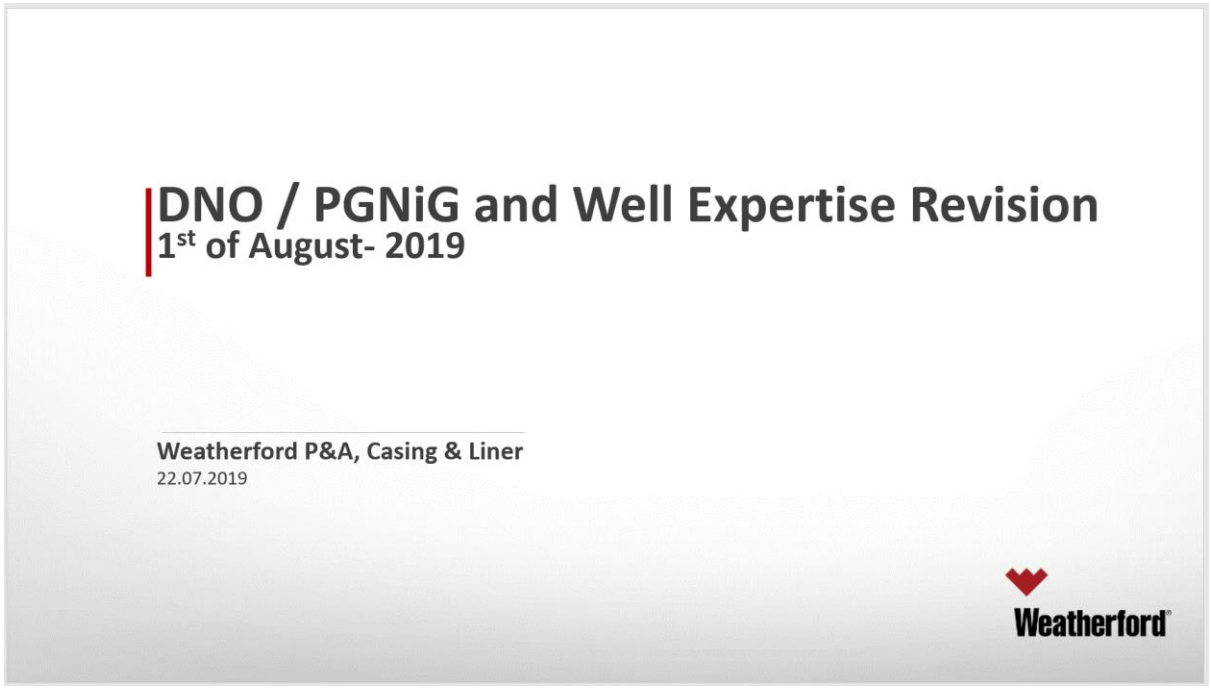
6.3	Personnel competency	Weatherford is expected to supply with experienced offshore personnel for the jobs at Deepsea Nordkapp. Please verify. During audit Weatherford verified that experienced offshore personnel are available for Shrek operation. All personnel are Weatherford employees. Weatherford presented their competence management system which included competence profile incl. core training and specific training on all employees. Average seniority of offshore liner hanger personnel is 17.5 years.	
6.4	AOB	Please present any other concerns or questions you might have to ensure a safe and efficient operation.	

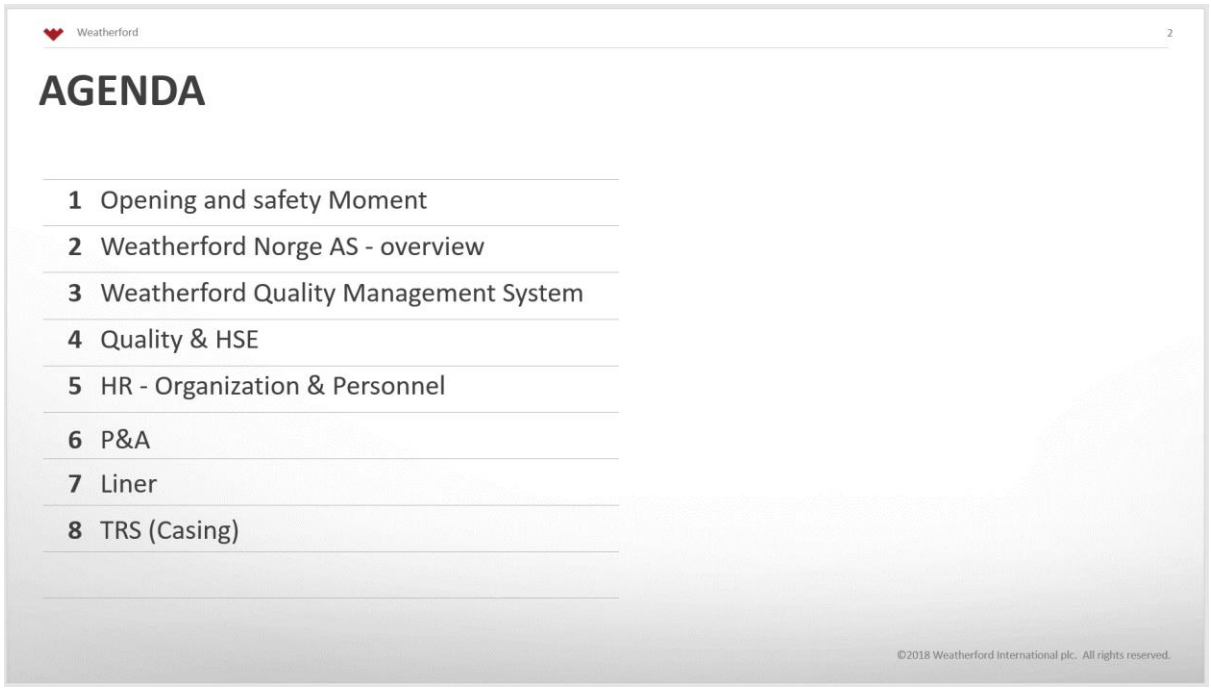
- Chapter 3 and 5 not included - related to DNO

3 Conclusion and follow up actions

Weatherford management system (OEPS) is compliant with regards to the subject of HSE reporting and follow up, lessons learnt and transfer of experience. Company gave a good impression of the management of risks. The overall impression by the auditors is that the Weatherford services are well prepared for the Shrek well. The technical solutions presented for the Shrek well seem robust. The subject regarding Deepsea Nordkapp as a new rig to Weatherford has been highlighted as a possible risk in the Weatherford's planning face of the project.

4 Appendix A Weatherford verification presentation





1. Opening and Safety Moment

Opening / Safety

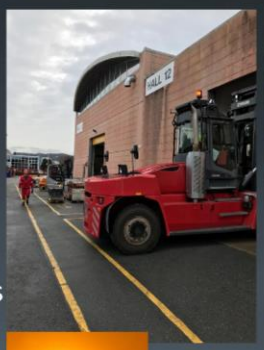
- Welcome to Weatherford
- No planned exercise or test of alarm today
  - If the alarm goes off we have to evacuate – follow WF personnel to nearest evacuation route
- Presentation of Participants
- Agenda and scope for the day

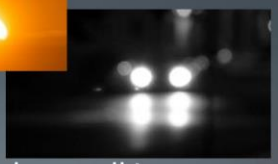
Agenda

- (15 min) 09.00 - 09.15 Welcome, Introduction and Presentation (Geir Egil and Kjetil)
- (30 min) 09.15 - 09.45 Presentation with Weatherford Service Delivery (ref. SoW attached)
- - Nikolay Oleksyuk & Audhild Bergtun
- (20 min) 09.45 - 10.05 Presentation with Weatherford P&A (ref. SoW attached)
- - André Hersdal & Idar Westergård
- (20 min) 10.05 - 10.25 Break
- (20 min) 10.25 - 10.45 Presentation with Weatherford Liner services (ref. SoW attached)
- - Jan Morten Bretting & Lasse Horpestad
- (20 min) 10.45 - 11.05 Presentation with Weatherford Casing Running services (ref. SoW attached) – Arve Falch & Geir Ståle Sunde
- (15 min) 11.05 - 11.20 Verification team internal summary
- (15 min) 11.20 - 11.35 Verification closing meeting

Safety moment

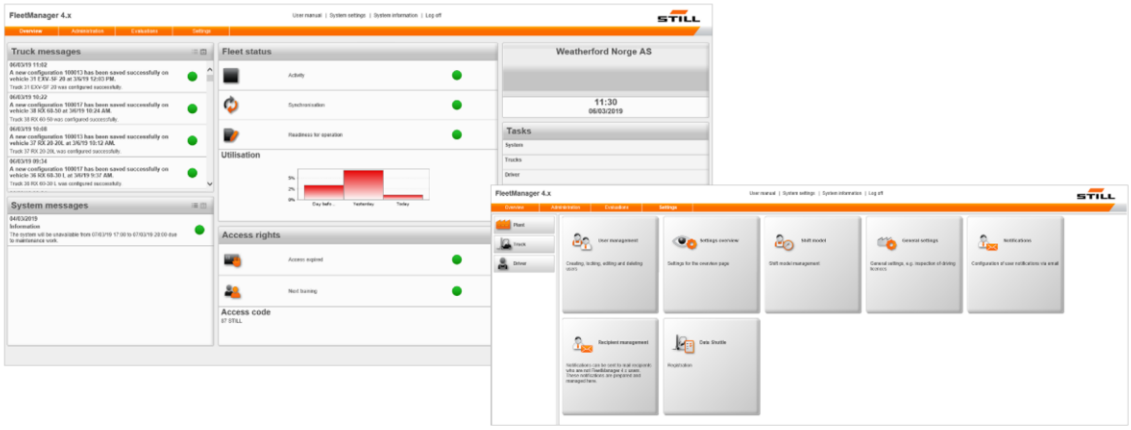
- Be aware of blind spots
  - Cyclist
  - Pedestrian
  - Driver
- Be aware of light conditions
  - Low sun position
  - Night time
- Always follow the marked pedestrian crossings (between marked yellow stripes)when walking on the yard





Fleet manager 4.x – Forklift management system

Leader have several individual choices regards to rules and regulations for forklift drivers



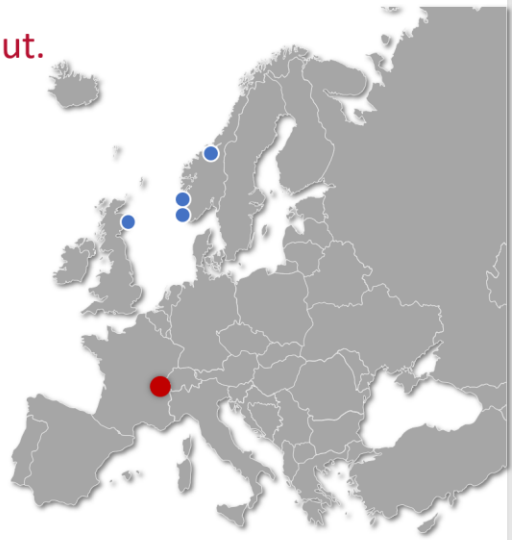
2. Weatherford Norge AS Overview

9

Enhanced Global Footprint

Local service touch. Global network clout.

- Head office in Geneva, Switzerland
- Region Main Office in Aberdeen
- Revenue USD 5.7 billion (2016)
- 10 Service Lines
- 910 service bases in 100+ countries
- 98 manufacturing facilities
- 16 Research, development and training facilities



10

FORMATION EVALUATION Focus on Unconventional	WELL CONSTRUCTION Focus on Well Integrity	COMPLETION Focus on Reservoir Completion	PRODUCTION Focus on Decline Rate
			
Complete reservoir evaluation and characterization technology and services (excluding seismic): ▪ Laboratory Services ▪ Wireline (specific sensing & specific conveyance) ▪ Logging-while-Drilling (unique sensing) ▪ Advanced Mudlogging ▪ Petroleum Consulting	**Flagship portfolio for securing well integrity** (excluding OCTG and cement): ▪ Tubular Running Services ▪ Managed Pressure Drilling ▪ Drilling with Casing ▪ Cementation Products ▪ Liner Hangers ▪ Solid Expandables	**Differentiated completion portfolio:** ▪ Open Hole Completion Systems ▪ Multifaceted zonal isolation capability ▪ Sand Control technology ▪ Latest generation Completion technology ▪ Engineered Chemistry	**Leading provider of integrated production systems:** ▪ Artificial Lift Systems ▪ Production Optimization – all forms - Control Systems - Flow Measurement - Reservoir Monitoring - Software

Global Priorities Technology/R&D/Competence

Engineering

- Significant R&D spend (2% of revenue) sustaining engineering, special projects

Technical Training

- Training Centers – Houston, Aberdeen, Middle-East, Brunei
- Full-sized drilling rigs for training and product development
- Local training

11

A HISTORY OF WEATHERFORD NORGE

1968 Weatherford performs its first operation for customers on the Norwegian continental shelf

1974 Weatherford Norge AS is established

1994 Weatherford buys Odfjell's rental unit for drilling equipment

2001 Weatherford buys Aberdeen-based Orwell Group, thereby expanding its rental portfolio for drilling equipment

2008 Weatherford buys V-Tech AS, a Kristiansand-based company that has developed special tools for rigging on rigging

1960s | 1970s | 1980s | 1990s | 2000s

1996 Weatherford buys Nodeco AS, a Norwegian manufacturer of liner hanger equipment

2003 Weatherford buys Algård-based Bakke Oil Tools AS, thereby expanding its production capacity in Norway

2007 Weatherford buys Trondheim companies Sicom AS and ResLab AS and incorporates companies' services in their worldwide network

 12

WEATHERFORD IN NORWAY

Main office building at Forus

Test facilities at Ullandhaug

Office, workshop and yard

Forus, Sandnes:
Main office and yard/workshop

Bergen:
Sales and operation support

Florø:
Bucking service and warehouse

Trondheim:
Sales support

Stjørdal:
Sales and operation support

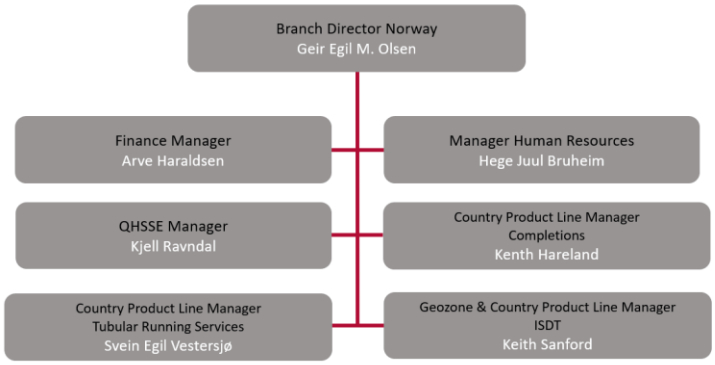
Hammerfest:
Warehouse

Ullandhaug, Stavanger:
Test facilities at IRIS

 13

14

Management Norway




AMBITIONS ON THE NCS
• Continuously reduce NPT to be best service provider in Norway
• Best for service company for well solutions
• Increase flexibility and lead time through local supplier network
• Expand product line offering
• Completions, Drilling Services, Managed Pressure Drilling, Production, Wireline
• Provide Integrated Services/Solutions for Drilling, Completions and P&A
• Continued investment in technology and people
• Triple revenue in Norway by 2021
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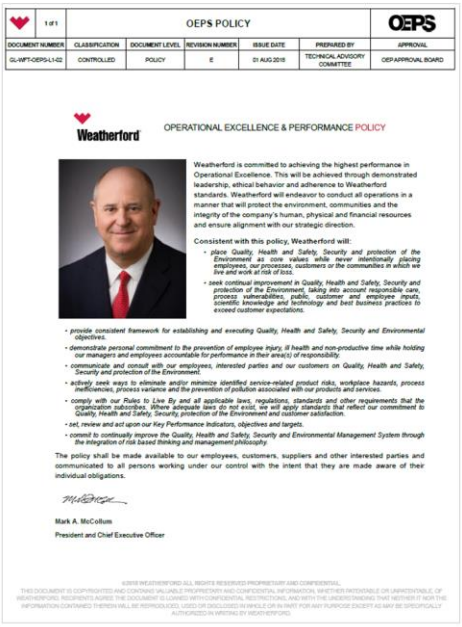
3. QMS
(Quality Management System)

WF - Operation Excellence & Performance Policy



1 of 1	OEPS POLICY					OEPS
DOCUMENT NUMBER	CLASSIFICATION	DOCUMENT LEVEL	REVISION NUMBER	ISSUE DATE	PREPARED BY	APPROVAL
GL-WPT-OEPS-L1-02	CONTROLLED	POLICY	E	01 AUG 2016	TECHNICAL ADVISORY COMMITTEE	OEP APPROVAL BOARD

Weatherford

OPERATIONAL EXCELLENCE & PERFORMANCE POLICY

Weatherford is committed to achieving the highest performance in Operational Excellence. This will be achieved through demonstrated leadership, ethical behavior and adherence to Weatherford standards. Weatherford will endeavor to conduct all operations in a manner that will protect the environment, communities and the integrity of the company's human, physical and financial resources and ensure alignment with our strategic direction.

Consistent with this policy, Weatherford will:

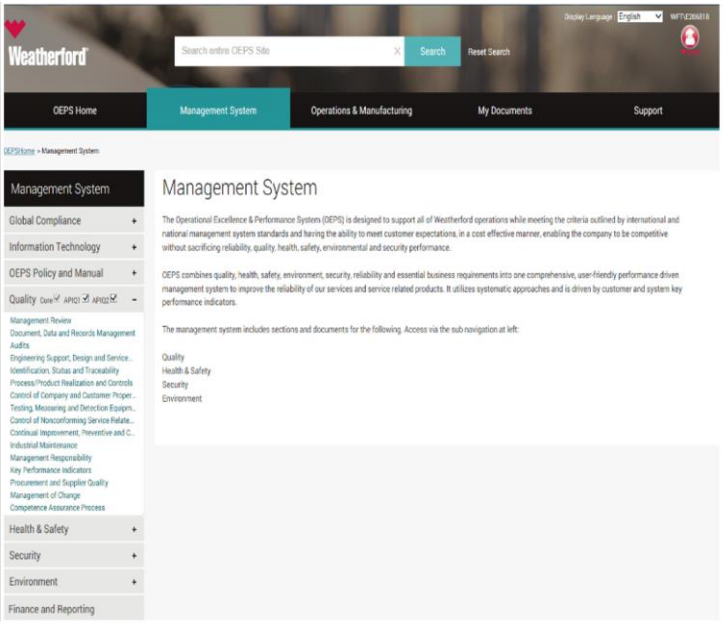
- *place Quality, Health and Safety, Security and protection of the Environment as core values while never intentionally placing employees, our processes, customers or the communities in which we live and work at risk of loss.*
- *seek continual improvement in Quality, Health and Safety, Security and protection of the Environment, taking into account responsible care, process vulnerabilities, public, customer and employee inputs, scientific knowledge and technology and best business practices to exceed customer expectations.*
- *provide consistent framework for establishing and executing Quality, Health and Safety, Security and Environmental objectives.*
- *demonstrate personal commitment to the prevention of employee injury, ill health and non-productive time while holding our managers and employees accountable for performance in their area(s) of responsibility.*
- *communicate and consult with our employees, interested parties and our customers on Quality, Health and Safety, Security and protection of the Environment.*
- *actively seek ways to eliminate and/or minimize identified service-related product risks, workplace hazards, process inefficiencies, process variance and the prevention of pollution associated with our products and services.*
- *comply with our Rules to Live By and all applicable laws, regulations, standards and other requirements that the organization subscribes. Where adequate laws do not exist, we will apply standards that reflect our commitment to Quality, Health and Safety, Security, protection of the Environment and customer satisfaction.*
- *set, review and act upon our Key Performance Indicators, objectives and targets.*
- *commit to continually improve the Quality, Health and Safety, Security and Environmental Management System through the integration of risk based thinking and management philosophy.*

The policy shall be made available to our employees, customers, suppliers and other interested parties and communicated to all persons working under our control with the intent that they are made aware of their individual obligations.

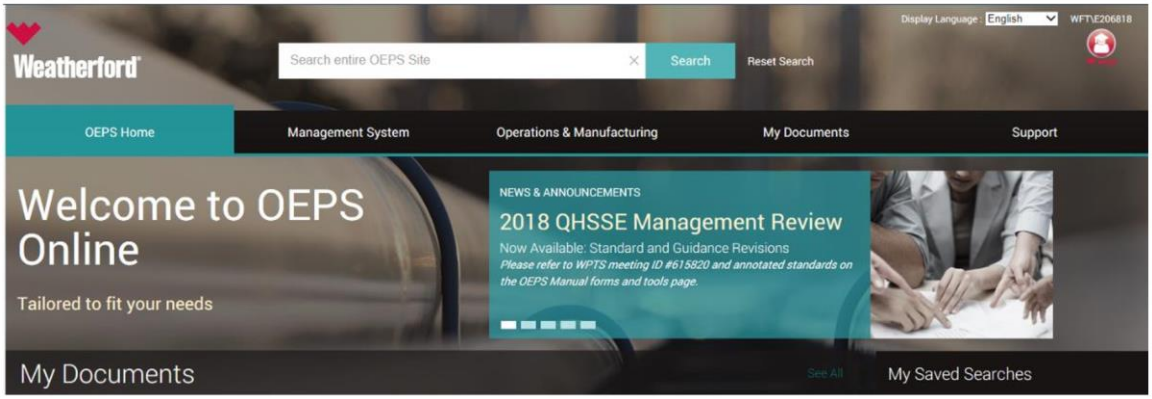
Mark A. McCollum

President and Chief Executive Officer

WF Management system (OEPS)



Management Review

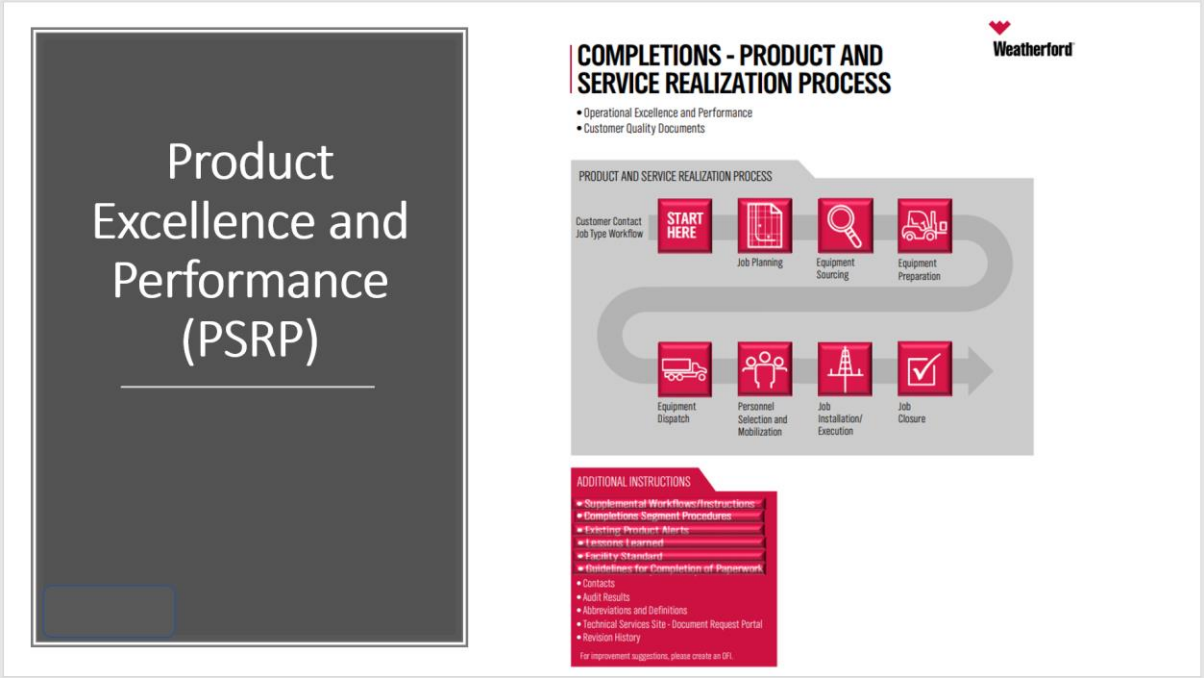


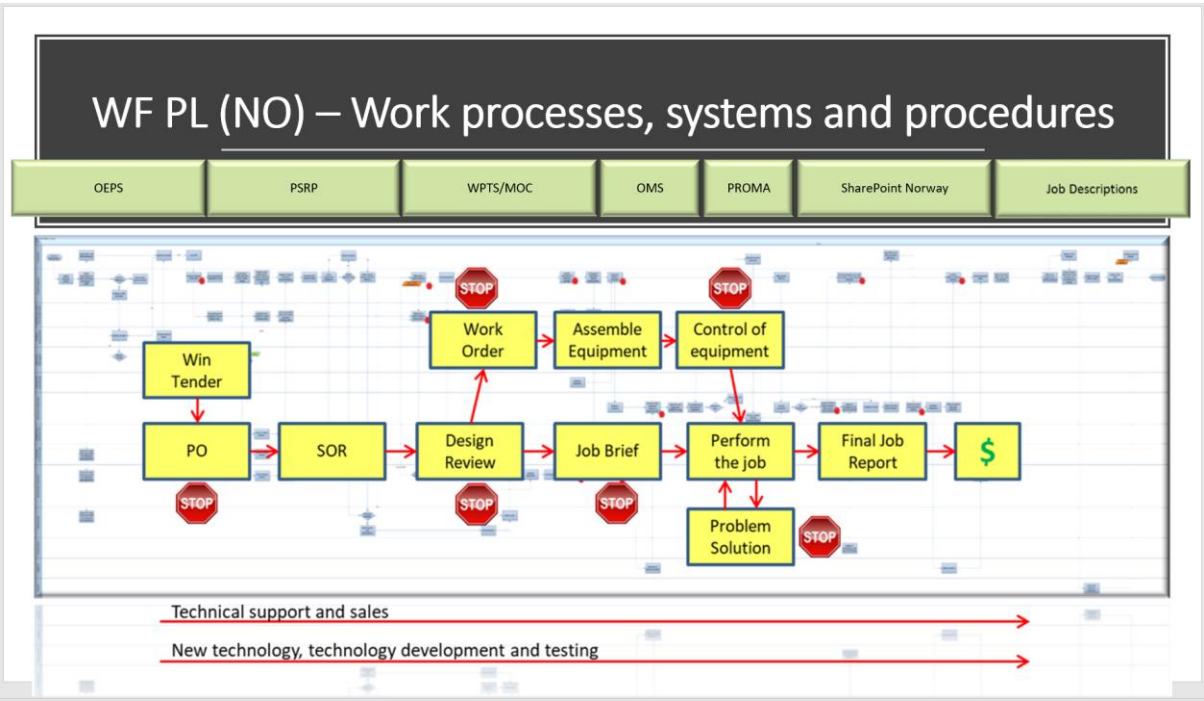
Management Review

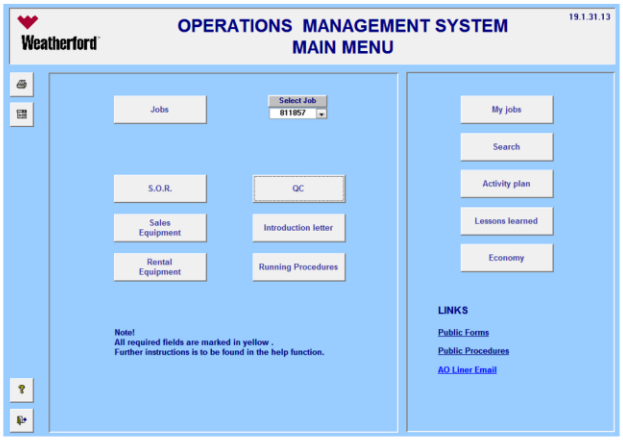
Management Review system for WF Norway (October 2018)

MRM AGENDA

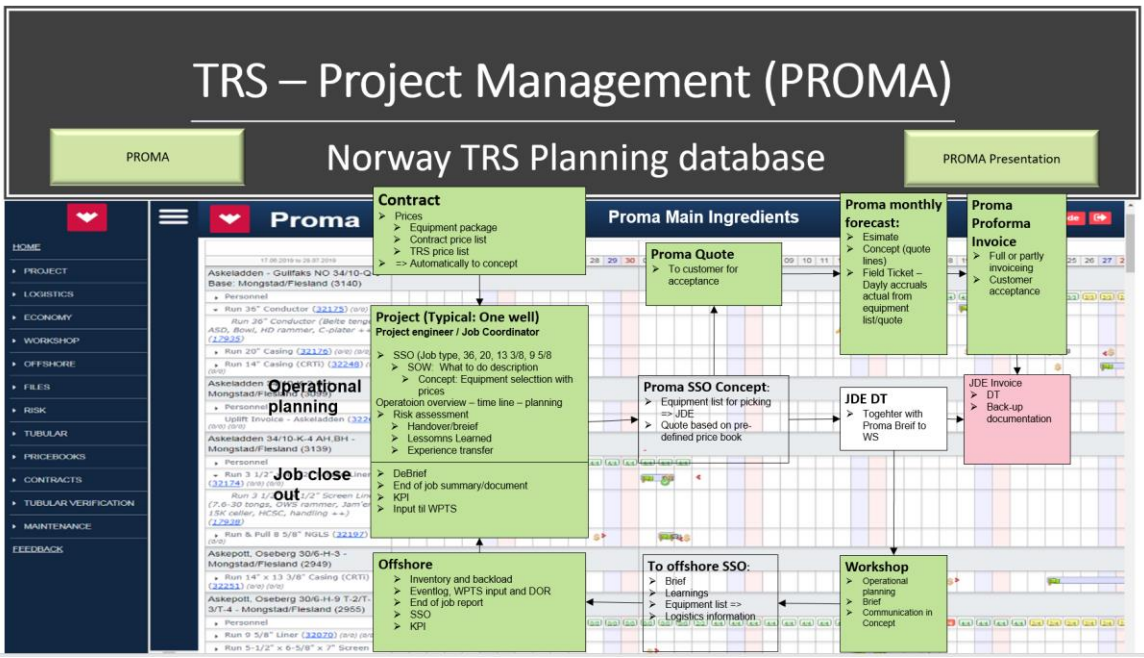
Inputs:	
1 - Previous Management Review Action Item Effectiveness	10 - Recommendations or opportunities for improvement and required resources
2 - Results of Audits	11 - QHSSE / Process performance & Trends Review
3 - Changes, Internal and External which could affect Management System	12 - Critical Management of Change
4 - Analysis of Customer Satisfaction	13 - Training & Competency
5 - Results and effectiveness of actions taken to address risks and opportunities	14 - Review and update Facility Profile
6 - Status of corrective and preventive actions	15 - Financial Review
7 - Analysis of supplier or external provider performance	16 - Legal
8 - Monitoring and measurement results including product conformity, NC, identified after delivery or use including service and service-related Product	**Outputs:**
9 - Adequacy of resources	17 - Summary assessment of the effectiveness of the management system and required resources
	18 - Top management Review Approvals


Product Excellence and Performance (PSRP)
COMPLETIONS - PRODUCT AND SERVICE REALIZATION PROCESS
Weatherford
• Operational Excellence and Performance
• Customer Quality Documents
PRODUCT AND SERVICE REALIZATION PROCESS
Customer Contact Job Type Workflow
START HERE
Job Planning
Equipment Sourcing
Equipment Preparation
Equipment Dispatch
Personnel Selection and Mobilization
Job Installation/ Execution
Job Closure
ADDITIONAL INSTRUCTIONS
• Supplemental Workflows/Instructions
• Completions Segment Procedures
• Existing Product Alerts
• Lessons Learned
• Facility Standard
• Guidelines for Completion of Paperwork
• Contacts
• Audit Results
• Abbreviations and Definitions
• Technical Services Site - Document Request Portal
• Revision History
For improvement suggestions, please create an OFI.


WF PL (NO) – Work processes, systems and procedures
OEPS
PSRP
WPTS/MOC
OMS
PROMA
SharePoint Norway
Job Descriptions
Win Tender
PO
SOR
Design Review
Work Order
Assemble Equipment
Control of equipment
Job Brief
Perform the job
Final Job Report
$
Problem Solution
STOP
Technical support and sales
New technology, technology development and testing



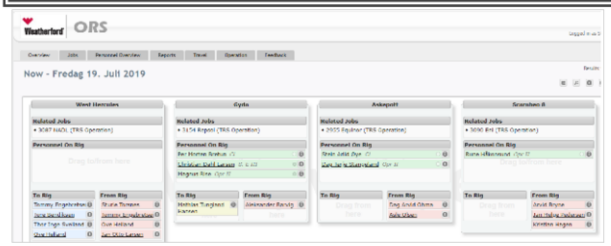
- SOR
- Sales Equipment
- Rental Equipment
- Lessons Learned)
- QC
  - Design Review
  - Workshop Brief
  - Offshore Brief
  - Offshore Debrief
  - Best Practices
  - Rig Best Practices
  - Risk Management
- Running Procedure
- Activity Plan
- Etc.



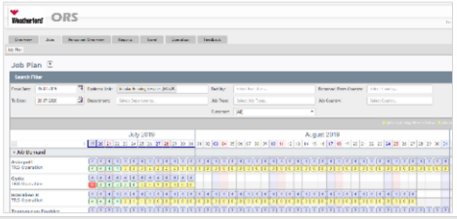
ORS – Operation/Online Rotation System

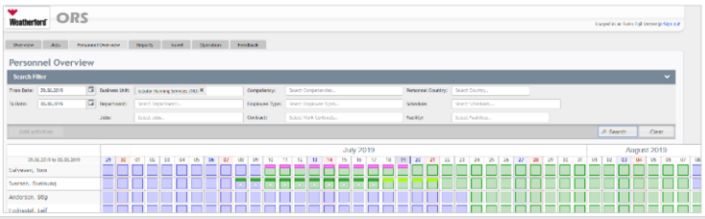
ORS

WF Norway – Offshore personnel database



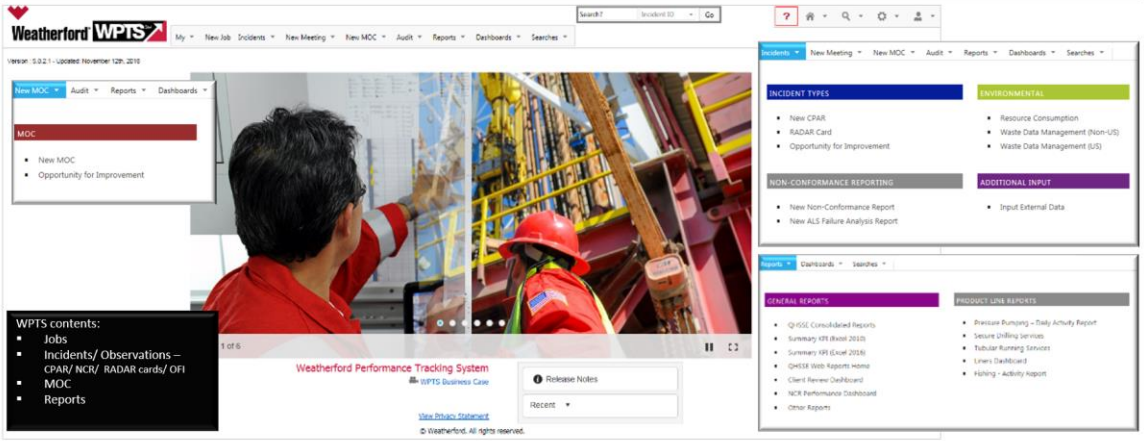
- In addition to Dawinci
- Registration of every job
- Registration of Rig arrival and homecoming (data from Dawinci)
- Utilization per department
- Various reports
- Tracking what personnel been on specific rigs
- Etc.





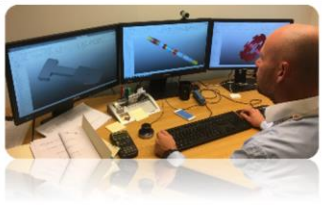
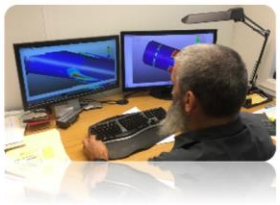
WPTS – Weatherford Performance Tracking System

WPTS



WF Norway Engineering

Sustaining Projects and Research & Development projects

Norway Engineering Scope & Projects

An engineering group of 6 engineers are located at Forus to support local operational needs. In cooperation with Equinor, we perform development projects and qualification testing required for the Norwegian market. This way we narrow in the distance between engineering and operation to deliver adapted equipment quicker and according to local requirements. Locally we can offer engineering work, and testing in our own test facility at Ullandhaug.

Norway Engineering Test Facility at Ullandhaug

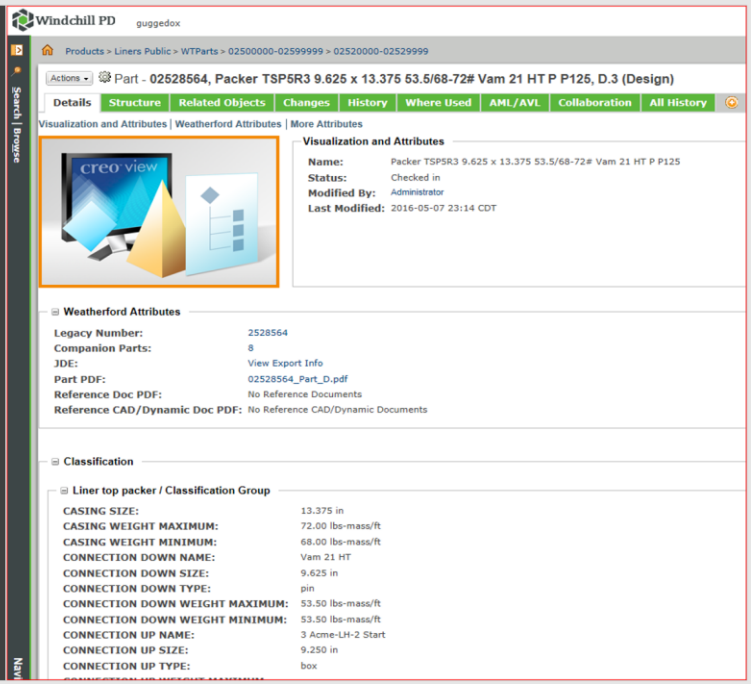
Test bay 24m long, built to bomb shelter standard

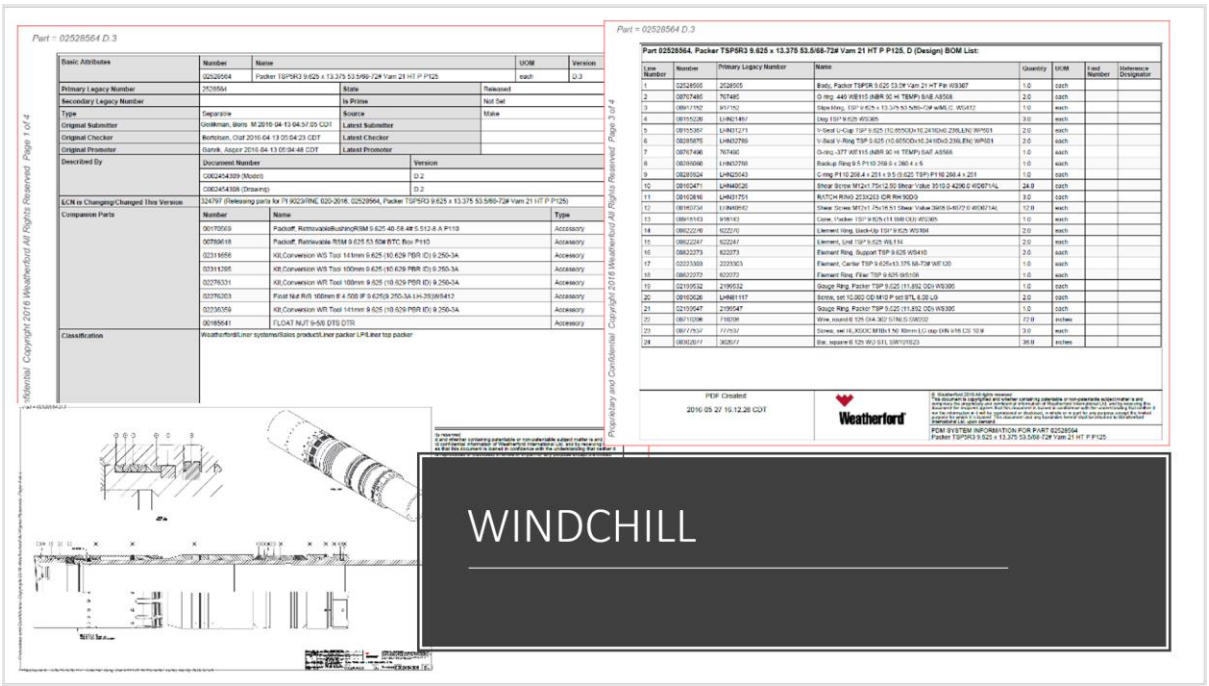
- Test object with max cross section 1m x 1m
- Max gas volume 1 liter

- Tensile rams up to 480 tons (1000 lbf)
- Test bench for Drilling/Milling testing
- Flow Testing/Mud Pump 1500 l/m, pressure 3000 Psi
- Pressure Testing
- Destructive testing
- Heat Belts up to 200 deg C
- Minimum temperature 4 deg C

WINDCHILL

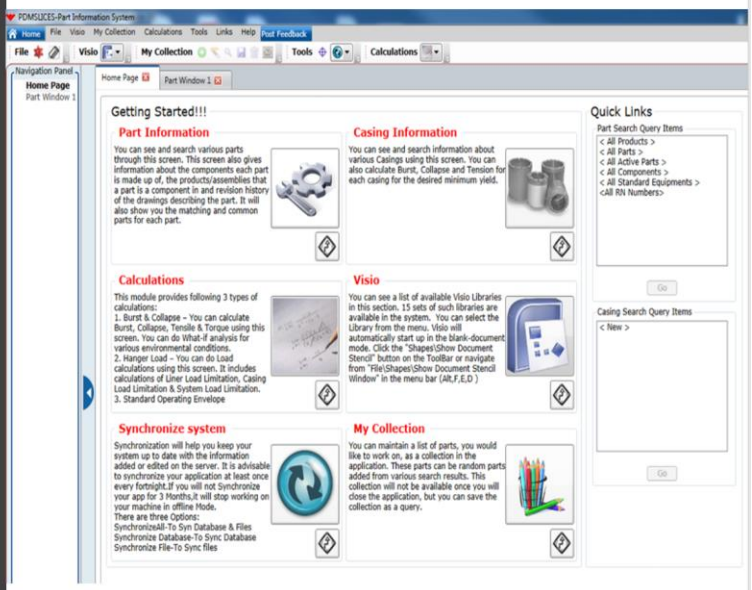
- Part/ Product Information
- Technical Drawings
- Technical Information
- Casing Information

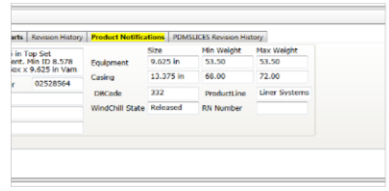


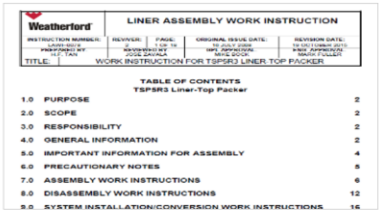


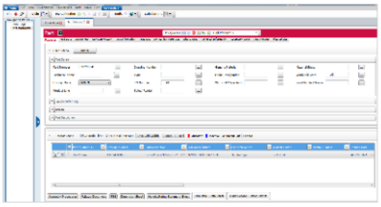
PDMSLICES

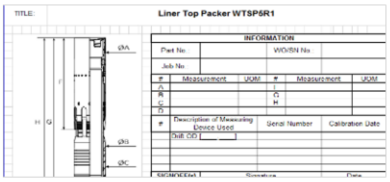
- Technical Datasheet
- Technical Inspection Sheet
- Assembly Procedure (Component)
- Product Notification





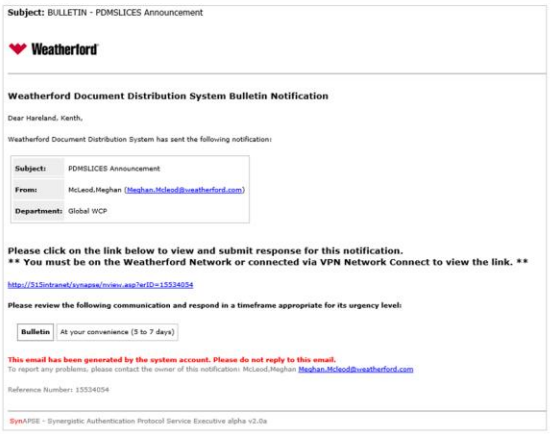


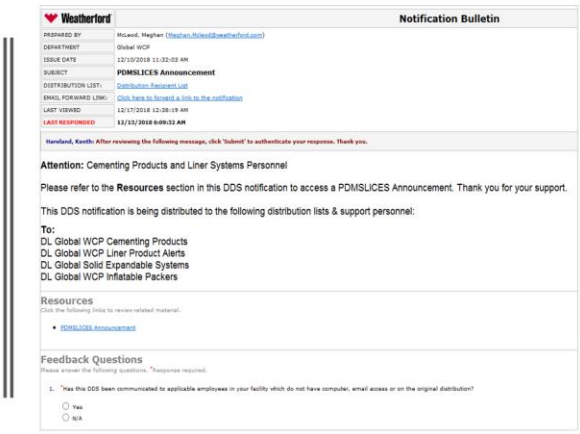




PDMSLICES

Technical Alerts/ Bulletins





MOC Example

Weatherford — Management of Change Authorization Form

Prepared By:	Approval
Technical Advisory Committee	OEP Approval Board

DOCUMENT #:	Document Classification:	Document Level:	REVISION NO:	Issue DATE:
GL-WFT-OEPS-L2-15.03	Controlled	L5	000	15 Apr 2012

PROCESS INTEGRITY INFORMATION

Date MOC Process Started: 12.02.2019	MOC Type	Company Experience Level
MOC REGISTRAR NUMBER: 12022019	☐ Process/Procedure Change ☐ New/Modified Equipment ☒ New/Modified Facility ☐ New/Modified Product/Chemical ☐ Key & Essential Personnel Change	☒ Experienced – Done it before ☐ No Experience ☒ Permanent Change ☐ Temporary Change
Global Business Unit or Function LH	Country Norway	Department Workshop – hall 13 and 14

Process Information	Process Components Affected	Change Driver	
☐ Engineering Prints ☐ Testing/Performance Data ☐ Procedures/Processes ☒ Current and Future State Picture ☐ Safety Information	☐ Procedures/Process/Practice ☒ Facilities/Machinery ☐ Service Related Product ☐ Organizational/Personnel Change ☐ Contract/Customer Plan Change	☒ Quality ☐ Safety ☒ Efficiencies ☐ Environmental ☐ Cost/Schedule	☐ No Loss ☐ NPT ☐ Injury ☐ Customer Request

Current State Description
Move racks in hall 13 and 14

Future State Description
Better usage of racks and floor area in both halls

Submitter's Printed Name & Signature: Date

☐ Check this box if continuation sheet is used for Process Information.

CHANG

Risk Analysis			
Quality Risk Assessment		QRA#	
Pre-Change	☐ High and Severe	☐ Medium	☒ Low
Post Change	☐ High and Severe	☐ Medium	☒ Low
Health & Safety Risk Assessment		SRA#	
Pre-Change	☐ High and Severe	☒ Medium	☐ Low
Post Change	☐ High and Severe	☒ Medium	☐ Low
Environmental Risk Assessment		ERA#	
Pre-Change	☐ High and Severe	☐ Medium	☒ Low

TASK / GENERAL RISK ASSESSMENT WORKSHEET — Page 1 of — OEPS

DOCUMENT NUMBER	CLASSIFICATION	DOCUMENT LEVEL	REVISION NUMBER	ISSUE DATE	PREPARED BY	APPROVAL
GL-WFT-OEPS-L4-01.01	CONTROLLED	L5	7	17 AUG 2017	TECHNICAL ADVISORY COMMITTEE	OEPS APPROVAL BOARD

que TRA Identification #: 12022019 — Site Location: Hall 13 and 14 — Assessment Completed by: Roger Skjæveland and Ragnar Evensen
e of Assessment: 12.02.2019 — Task / Operation to be Assessed: Relocation of two pallet racks and one "finger" rack in Hall 13 and 14

Task / Job Steps / Activity			Hazard / Aspect Description	Affected Person(s) / Environmental Resource - water, air, land etc. (for Environment describe the impact and whether Positive or Negative)	Normal/ Abnormal/ Emergency Event	Direct/ Indirect (Environmental Only)	Initial Risk L	Initial Risk C	Initial Risk Rating / Significance	Primary Controls	Residual Risk L	Residual Risk C	Residual Risk Rating / Significance	Additional Controls for ALARP	Ultimate Risk L	Ultimate Risk C	Ultimate Risk Rating / Significance	Comments / Notes (Add Legal requirements if applicable)
Moving pallet rack from hall 14 1 section to Hall 13Pressure test area	To be placed in same location as the finger rack removed	Heath and Safety	Similar fork lift activity in area	Workshop personnel	Normal	Direct	Very Likely	Catastrophic	High	Sertifisert Truck sjåfør Sikring av last Take 5 Fartssperre på Truck - ganglart Ukentlig/daglig sjekk av truck før bruk	Remote	Catastrophic	Medium				USANN	
			reduced trip hazard due to removing pallets on floor	Workshop personnel	Normal	Direct	Very Likely	Serious	High	Sertifisert Truck sjåfør Sikring av last Take 5 Fartssperre på Truck - ganglart Ukentlig/daglig sjekk av truck før bruk	Remote	Slight	Low				USANN	
Moving pallet rack from hall 13 2 section to Hall 14 RCTDH	To be placed in same location as the finger rack removed	Heath and Safety	Similar fork lift activity in area	Workshop personnel	Normal	Direct	Very Likely	Catastrophic	High	Sertifisert Truck sjåfør Sikring av last Take 5 Fartssperre på Truck - ganglart Ukentlig/daglig sjekk av truck før bruk	Remote	Catastrophic	Medium				USANN	
			reduced trip hazard due to removing pallets on floor	Workshop personnel	Normal	Direct	Very Likely	Serious	High	Sertifisert Truck sjåfør Sikring av last Take 5 Fartssperre på Truck - ganglart Ukentlig/daglig sjekk av truck før bruk	Remote	Slight	Low				USANN	
Moving pallet rack from hall 13 3 sections to Hall 13 South area	To be placed in same location as the finger rack removed	Heath and Safety	Similar fork lift activity in area	Workshop personnel	Normal	Direct	Very Likely	Catastrophic	High	Sertifisert Truck sjåfør Sikring av last Take 5 Fartssperre på Truck - ganglart Ukentlig/daglig sjekk av truck før bruk	Remote	Catastrophic	Medium				USANN	
			reduced trip hazard due to removing pallets on floor	Workshop personnel	Normal	Direct	Very Likely	Serious	High	Sertifisert Truck sjåfør Sikring av last Take 5 Fartssperre på Truck - ganglart Ukentlig/daglig sjekk av truck før bruk	Remote	Slight	Low				USANN	

Incident & Lessons Learned Example

CPAR# 362133 Wellesley/ Grosbeak/ Transocean Arctic -35/11-21 – Problem to stab WP and packer set and RT released prematurely (LH)

RELIABILITY

Technical Lessons Learned
Title: Problem to stab SSR dual Wiper plug

Page 1 of 1 — Weatherford

Event: Shear back-up left hand-release on running tool and 1st shear on packer when attempting to stab wiper plug

Guideline steps if problem to stab wiper plug:

- ☐ Lift the liner hanger set up and stab the plug into the liner joint
- ☐ Take 2 pieces of loop on the rental. These must be mounted opposite each other so that the wiper plug is jerked down centered
- ☐ Attach 2 pieces of straps to a sling and attach them to the drill floor near by the rotary
- ☐ Make sure the elevator is free from tool joint, but remember do not have too much distance
- ☐ Jack down until the plug is inside and the wiper plug set comes down by itself
- ☐ Remove the strap and make up the liner

Job#: 811949	CPAR# 362133	NPT (hrs): N/A

Findings:
Immediate Causes
RIH with 7" liner. M/U liner hanger and attempt to wiper plug into liner. Discussed how to get wiper plug stabbed into liner if hanger weight was not enough. Driller did not want to push with DDM, due to movement on rig. Because of tight clearance, wiper plug/liner hanger was pulled down with manipulator arm. Shear back-up left hand-release on running tool and 1st shear on packer when attempting this. Replace Liner hanger with back-up hanger assembly, and replaced liner joint. Installed B/U liner hanger and RIH. Due to fill liner was positioned app 4m above planned depth. Circulate out gas. Set liner hanger and released running tool. Mix and pumped 8 m3 cement slurry and displaced with rig pumps. Bumped plug within calculated volume and tested liner to 345 bar. POOH with running tool.

Investigation findings/ Causal factor:
Most likely the sales have been rotated clock wise when pulled down with manipulator arm and therby caused the back up left hand release on the Running tool to release.

Preventive Actions:

- Best practices made for situations when got stabbing issues.
  Responsible: Liner Operation
- Improved SSR Dual plugs have been made to prevent stabbing issues. These plugs will arrive to Norway soon
  Responsible: Engineering

Root Causes:
Equipment Difficulty: Problem to stab SSR plug **Human Performance Difficulty:** N/A

Notification No.	Prepared By (Investigator)	Approved by	Date
GFA-NORWAY-2018-12	Odd Brattgjerd	Lasse Horpestad	23/08/18

Weatherford — **Advisory Notification**

Number: TB654-06-18

Advisory Type: ☐ Safety ☒ Product ☐ Environmental ☐ Security ☐ Process ☐ Materials ☐ Other/External:

IMPROVEMENTS FOR SUB SURFACE RELEASE SMALL BORE PLUG SYSTEMS

Technology Updates

- Modify 7in SSR wiper plug
  - Easier stabbing into casing
  - Same plug cover casing weights 20.00 ppf – 38.00 ppf

WF Liner Norway PAP

Performance Assurance Plan

PL Liner Hangers
Performance Assurance Plan Norway
Year: 2015 - 2019 Revision Date: 04.06.2019

Weatherford

Id	Activity	Contents	Action	%	Status	Responsible	Due date	KPI	CPAR/Comments
1	**TOP5** Reduksjon av NPT i % av Operasjonelle timer og antall negative hendelser	Design forbedring av eksisterende utstyr	Well Wash Liner system med Running tool som tåler 120rpm	60		Tor Jostein G.	31.08.2019	Økning av bruksområde for Liner i brønner som krever høyere rotasjon/ RPM.	Engineering is looking on a system that could capture both Norway and UK requirements. Utstyr som skal brukes i testen må bestilles.Quote sendt til Aberdeen.
			High torque running tool (R-tool) Fase 1 (35 000ftlbs - 7") Fase 2 (50 000ftlbs - 7")	100		Tor Jostein G.	30.09.2017 (fase 1) 15.12.2018 (fase 2)	Reduksjon av negative hendelser ved bruk av Liner High torque Running tool i krevende brønner med høy torque	Synergi 1499813/ CPAR 3128559 Synergi 1494078/ CPAR 3075552
		Implementering av Globale prosedyrer. Denne aksjonen ble åpnet igjen i juni måned da major regional audit som er gjennomført viste at LHWI prosedyrene ikke ble fulgt opp slik som kravet er.	Følge global OEPS og PSPR prosedyrer (OMS vil i tillegg bli brukt i Norge)	40		Kjell Blix	28.07.2019	Ingen NPT på grunn av prosedyre brudd, ikke følge tech alert etc..	Synergi 1555650/ CPAR 3650534 Gjennomføre ukentlig Workshop Coordinator inpseksjons runder og månedlige management inspeksjons runder der fokuset blant annet er bruk av prosedyrer. Workshop Material Controller sjekker også ut at LHWI er fylt ut når papirene blir levert for renskriving og lagring i folder.
		Torque and drag kompetanseheving	Opplæring av Project Ingeniører (simulerings kurs) samt økt fokus på Brønn simulering under planleggingsfasen av en jobb.	100		Tor Jostein G.	30.12.2018	Opplæring/ kursing av Project Ingeniører	Opplæring av Prosjekt Ingeniører er påbegynt (10/10 gjennomført), møte med Offshore Ingeniører med gjennomgang av emne er gjennomført
			Øke Offshore ingeniørenes forståelse og kompetanse på tydning av simuleringer	10		Tor Jostein G.	15.09.2019	Opplæring/ kursing av Offshore Ingeniører	Kursmaterialet påbegynt - kurs gjennomføres iløpet av 2018
		5" Liner system test TR2385	Systemtest 5" x 7" 29# for TR2385 kvalifikasjon	50		Tor Jostein G.	31.08.2019	Planning of test started	Kvalifikasjon til TR2385 (Equinor). Fått PO av kunde (Nøkken)
		7" Wiper plugger	7" SSR Dual wiper plugger - utfordringer med å stabbe, bumpe samt noen ganger lekasje. Se på design samt sette opp track record for å se om det er noen sammenheng mellom de hendelsene vi har observert (brønn forhold, design etc.)	100		Tor Jostein G.	30.09.2018	Reduksjon av NPT hendelser som skyldes SSR Dual Viper plugg. SSR SB systemet vil få flere tekniske forbedringer. Forbedrede plugger er blitt utviklet og vil være i bruk innen september 2018	Synergi 1501026/ Synergi 1494078/ CPAR 3075552 Synergi 1501026/ CPAR 3140806
		QC Stand down	Gjennomføring av SQ Stand Down og opprettelse og distribusjon av Lessons	100		Odd B	Ved behov - Presentasjon av	NPT reduksjon og minder feil funnet ved utsjekk (Lean	Implementert. Prosedyre LH-01-01-01-07 Devation and Investigation er oppdatert til å også inbefatte SQ Stand Down og

4. Quality & HSE

37

Health, Safety and Environment

Health, Safety & Environment Objectives

Our objectives are no accidents, injuries or losses, by care for the individual health and safety

The ”Zero Impact Days” Concept

Zero harm to people or to the environment
Zero accidents or losses

Values and Vision

ETHICS AND INTEGRITY

COLLABORATION AND PARTNERSHIP

DISCIPLINE AND ACCOUNTABILITY

INNOVATION AND TECHNOLOGY LEADERSHIP

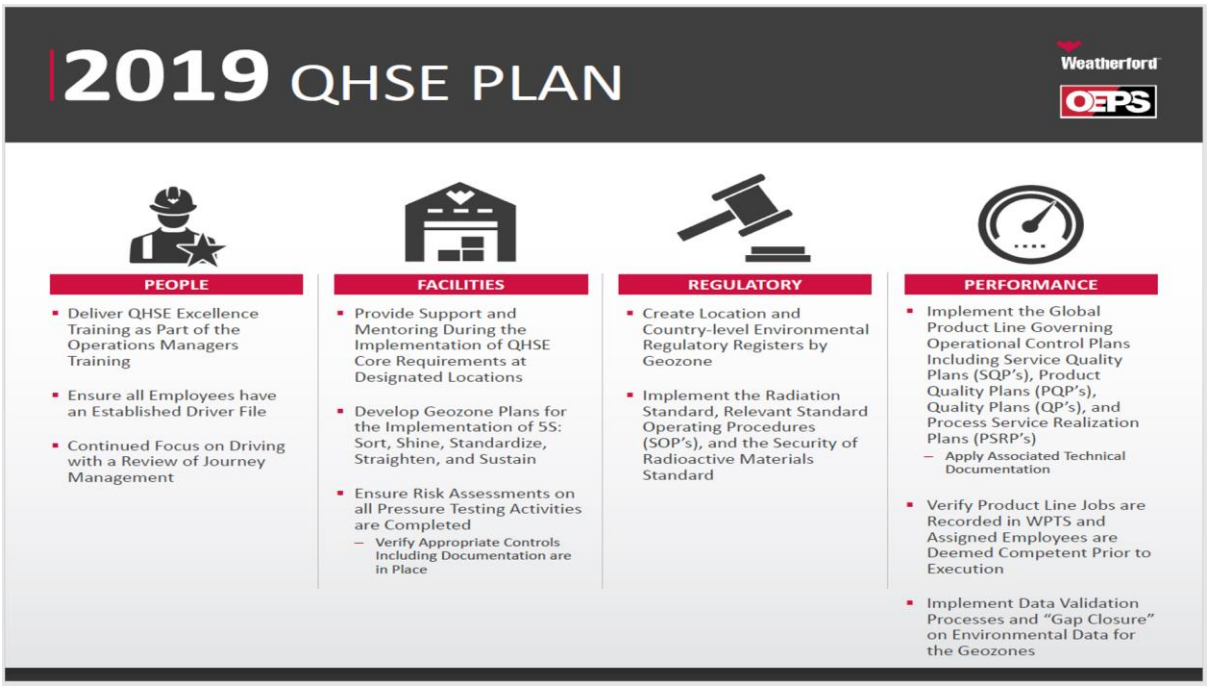
FLAWLESS EXECUTION

COMMITMENT TO SUSTAINABILITY

Visjon

Weatherford – the best well supplier on the Norwegian shelf

38


2019 QHSE PLAN
Weatherford
OEPS
PEOPLE
Deliver QHSE Excellence Training as Part of the Operations Managers Training
Ensure all Employees have an Established Driver File
Continued Focus on Driving with a Review of Journey Management
FACILITIES
Provide Support and Mentoring During the Implementation of QHSE Core Requirements at Designated Locations
Develop Geozone Plans for the Implementation of 5S: Sort, Shine, Standardize, Straighten, and Sustain
Ensure Risk Assessments on all Pressure Testing Activities are Completed
– Verify Appropriate Controls Including Documentation are in Place
REGULATORY
Create Location and Country-level Environmental Regulatory Registers by Geozone
Implement the Radiation Standard, Relevant Standard Operating Procedures (SOP's), and the Security of Radioactive Materials Standard
PERFORMANCE
Implement the Global Product Line Governing Operational Control Plans Including Service Quality Plans (SQP's), Product Quality Plans (PQP's), Quality Plans (QP's), and Process Service Realization Plans (PSRP's)
– Apply Associated Technical Documentation
Verify Product Line Jobs are Recorded in WPTS and Assigned Employees are Deemed Competent Prior to Execution
Implement Data Validation Processes and "Gap Closure" on Environmental Data for the Geozones


WF – QHSE Goals 2019
Safety
0 INCIDENTS
0 Lost Time Injuries
0 Environmental impact
Service Quality
NPT < 2.5 %
Preferred Supplier
Consistent supply

WF QHSE Focus Areas 2019

Service Quality

NPT < 2,5 %

1. Pre Job Brief / Planning
2. Ops Risk Analysis
3. Competency
4. Root Cause Analysis (CPAR)

Safety

0 INCIDENTS

1. Hand Safety
2. Lifting operations
3. Risk Assessments
4. Reporting
5. Management Participation

Contract HSSE plan – generic HSE RIG plan 2019

Activity	Target	How	When
Well control	Zero Well Control incidents	• Operational risk assessments on every job. Documented in meetings with customer, Proma or OMS.	• Every job
Prevent dropped objects	Zero dropped objects	• Monthly safety topic in june. • Prevent falling objects is a topic in offshore brief and offshore debrief – lessons learned. Documented in Proma or OMS • Prevention of loose items are always controlled and documented in check list for outbound container / basket	• June • Every job, ongoing • On every shipment
Strong security culture	Zero security incidents	• General security awareness training for all personell • Specific security training for «ansvarlig for sikring av forsendelsen» (pakkeansvarlig) • Specific lashing and securing training for offshore personnel	• February • February • Ongoing
Job safety preparation	Zero incidents	• Pre-job planning and risk assessment • Participation in HSSE meetings on rig. Documented in offshore debrief	• On every job
HSE commitment / reporting	HSE cards / person / job	• Take 5 risk assessment • HSE cards reporting customer specific. • Logged in post job reports in WPTS (Proma or OMS)	• On every job • Ongoing
Chemicals / Environment	No spill to environment	• Chemicals used to be reported to offshore medic by end of each month by responsible Project Engineer	• Monthly
Red zone	Zero breaches of red zone policies	• Ensure knowledge and follow customer specific Red Zone rules and policies	• On every job
Lifting and pipe handling operations	Zero incidents	• Lifting operations are to be approved and executed by RIG approved personnel.	• On every job
Housekeeping	Clean and tidy work space	• Follow RIG specific requirements for housekeeping • Keep work space clean and tidy at all times	• On every job

WF – Certifications / Plant accreditations

This is to certify that the Quality System of
Weatherford Norge AS
Sandnes (Stokkamyrveien), Stavanger (Ullandhaug) og Florø (Fjordbase)
complies with Quality Systems Standard
NS EN ISO 9001 : 2015
The certificate is valid for the following activities:
Engineering, sales and installation of Well Intervention, Multilateral Solutions, Completion and Production Systems, Liner Systems, Cementing Products, Drilling Tools and Fishing Equipment Installation of OCTG/Tubulars including Onshore Support and Services. Rental of Drilling Equipment such as Drill Pipe, Test Tubing and Handling Equipment, Equipment Development and Design. Drilling Services (Directional Drilling, Logging while drilling LWD, Measurement while drilling MWD) and Controlled Pressure Drilling (CPD).

CERTIFICATE

The certificate expires: **20.05.2022**
Initially certificated: **19.11.1991**
Dovre Certification AS
Stavanger, **20.05.2019**
Certificate No.: **313**

Company's Representative **Leif Sivertsen** — Dovre Certification AS — Lead Auditor **Atle Storås**

This is to certify that the Environmental Management System of
Weatherford Norge AS
Sandnes (Stokkamyrveien), Stavanger (Ullandhaug) og Florø (Fjordbase)
complies with Environmental Management System Standard
NS-EN ISO 14001 : 2015
The certificate is valid for the following activities:
Engineering, sales and installation of Well Intervention, Multilateral Solutions, Completion and Production Systems, Liner Systems, Cementing Products, Drilling Tools and Fishing Equipment Installation of OCTG/Tubulars including Onshore Support and Services. Rental of Drilling Equipment such as Drill Pipe, Test Tubing and Handling Equipment, Equipment Development and Design. Drilling Services (Directional Drilling, Logging while drilling LWD, Measurement while drilling MWD) and Controlled Pressure Drilling (CPD).

CERTIFICATE

The certificate expires: **20.05.2022**
Initially certificated: **20.03.2010**
Dovre Certification AS
Stavanger, **20.05.2019**
Certificate No.: **103**

Company's Representative **Leif Sivertsen** — Dovre Certification AS — Lead Auditor **Atle Storås**

WF – Certifications / Plant accreditations

EPIM certificate will replace this in the future

JQS
Joint Qualification System
for suppliers to the Oil Industry in Norway and Denmark

Certificate of Qualification

Awarded to
WEATHERFORD NORGE AS

Company Registration number: 955516850
Achilles Id: 19404

Achilles Information AS hereby confirms that
WEATHERFORD NORGE AS
is Qualified in the Achilles Joint Qualification System for suppliers to the Oil Industry in Norway and Denmark. The Qualification concerns the product and service codes listed in the appendix.

Atle Gjertsen
Achilles Information AS
Senior Manager, Oil & Gas

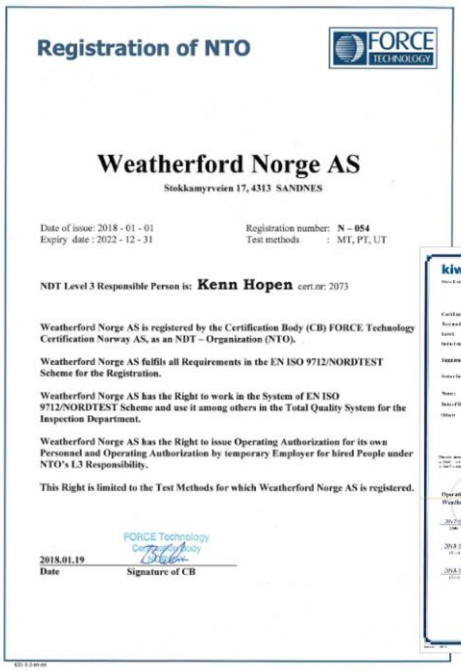
Anja Thorsdalen
Achilles Information AS
Operation Manager

Achilles The participating Oil Companies and Main Contractors may use Achilles JQS as the basis for preparation of bidder lists directly or together with additional qualification criteria established by the individual Company. Other qualification stages may be added by the individual Company if more information is found necessary to complete preparation of bidder lists.

07.02.2019
Issued date

11.12.2019
Expiry date

WF – Certifications / Plant accreditations



Registration of NTO

FORCE TECHNOLOGY

Weatherford Norge AS

Stokkamyrveien 17, 4313 SANDNES

Date of issue: 2018 - 01 - 01
Expiry date : 2022 - 12 - 31

Registration number: N – 054
Test methods : MT, PT, UT

NDT Level 3 Responsible Person is: **Kenn Hopen** cert.nr: 2073

Weatherford Norge AS is registered by the Certification Body (CB) FORCE Technology Certification Norway AS, as an NDT – Organization (NTO).

Weatherford Norge AS fulfils all Requirements in the EN ISO 9712/NORDTEST Scheme for the Registration.

Weatherford Norge AS has the Right to work in the System of EN ISO 9712/NORDTEST Scheme and use it among others in the Total Quality System for the Inspection Department.

Weatherford Norge AS has the Right to issue Operating Authorization for its own Personnel and Operating Authorization by temporary Employer for hired People under NTO's L3 Responsibility.

This Right is limited to the Test Methods for which Weatherford Norge AS is registered.

FORCE Technology Certification Body

2018.01.19
Date

Signature of CB

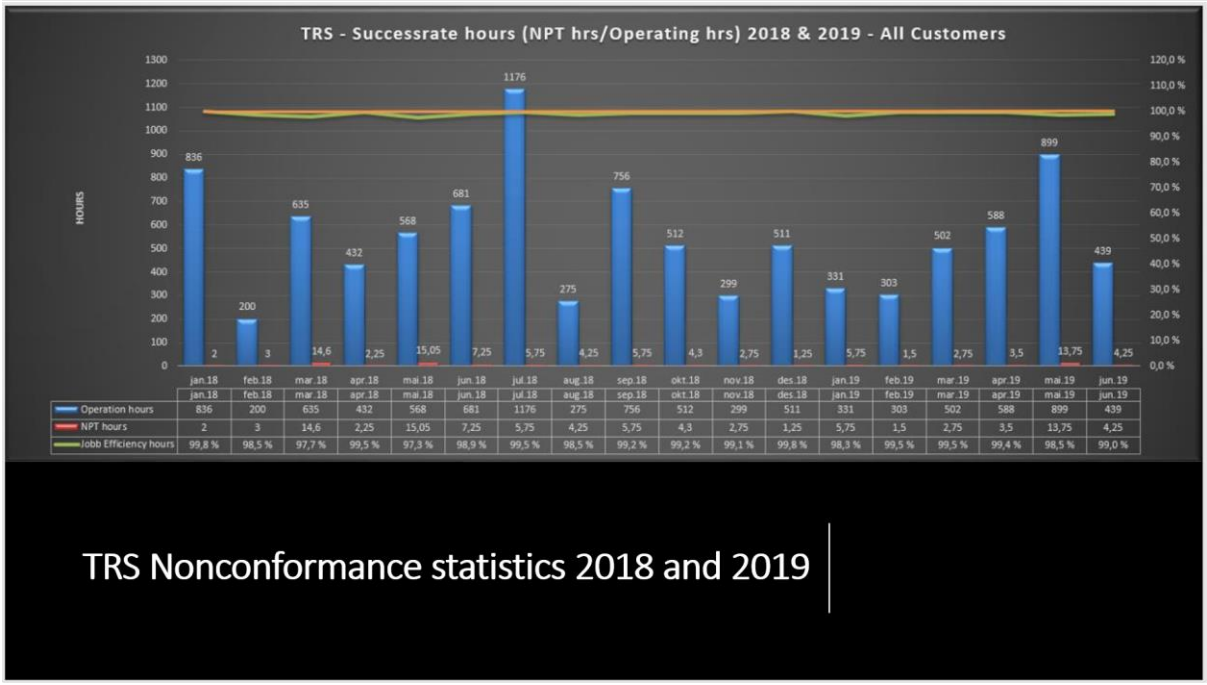
kiwa

NDT Certificate

according to

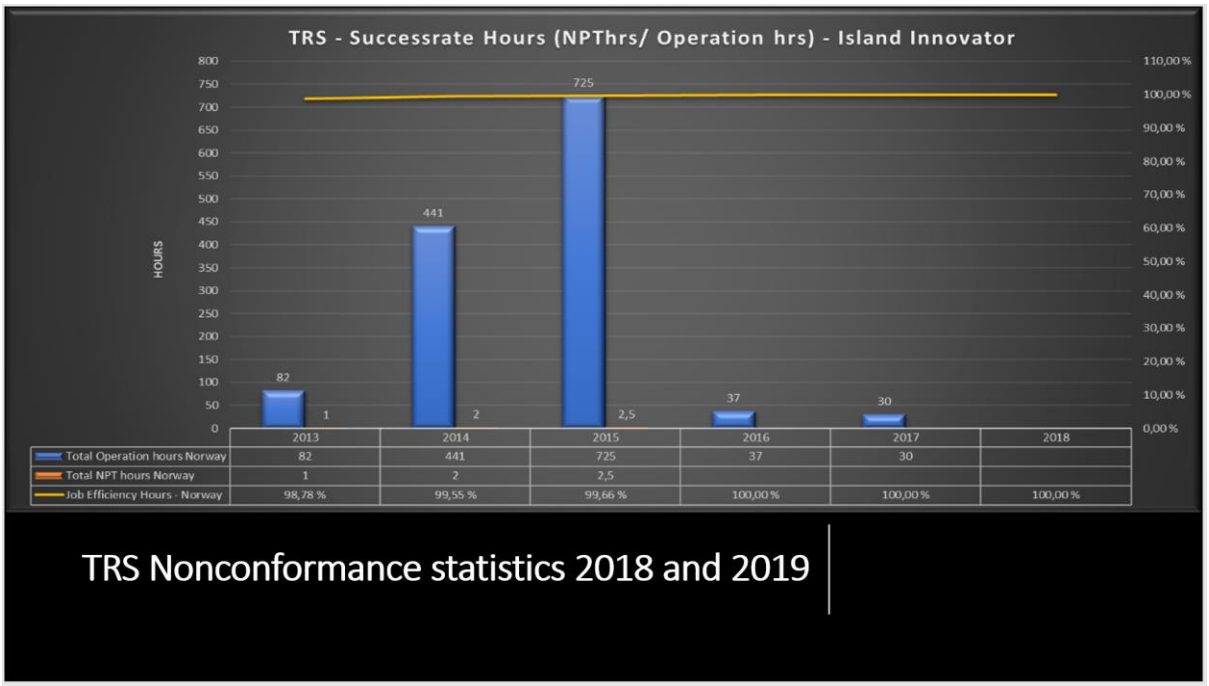
NS-EN ISO 9712:2012

NORDTEST

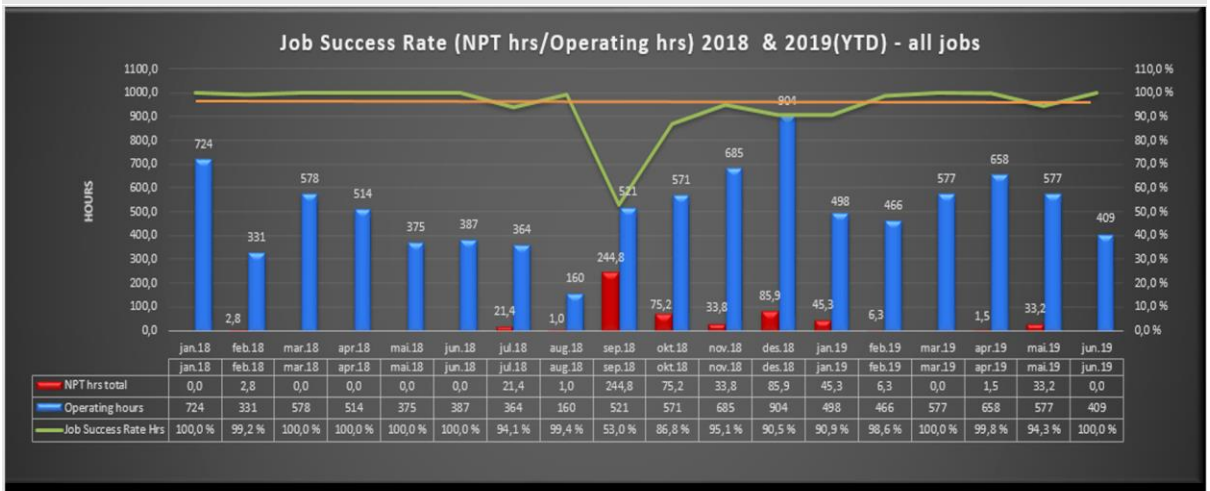


	jan.18	feb.18	mar.18	apr.18	mai.18	jun.18	jul.18	aug.18	sep.18	okt.18	nov.18	des.18	jan.19	feb.19	mar.19	apr.19	mai.19	jun.19
Operation hours	836	200	635	432	568	681	1176	275	756	512	299	511	331	303	502	588	899	439
NPT hours	2	3	14,6	2,25	15,05	7,25	5,75	4,25	5,75	4,3	2,75	1,25	5,75	1,5	2,75	3,5	13,75	4,25
Jobb Efficiency hours	99,8 %	98,5 %	97,7 %	99,5 %	97,3 %	98,9 %	99,5 %	98,5 %	99,2 %	99,2 %	99,1 %	99,8 %	98,3 %	99,5 %	99,5 %	99,4 %	98,5 %	99,0 %

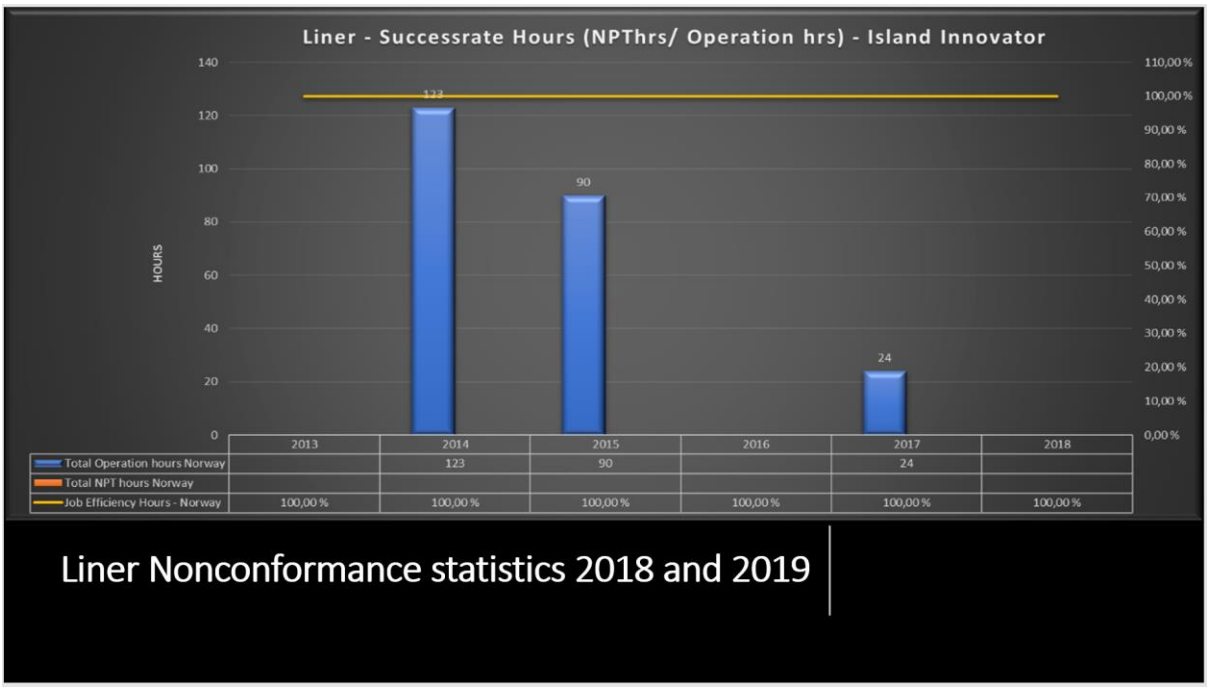
TRS Nonconformance statistics 2018 and 2019



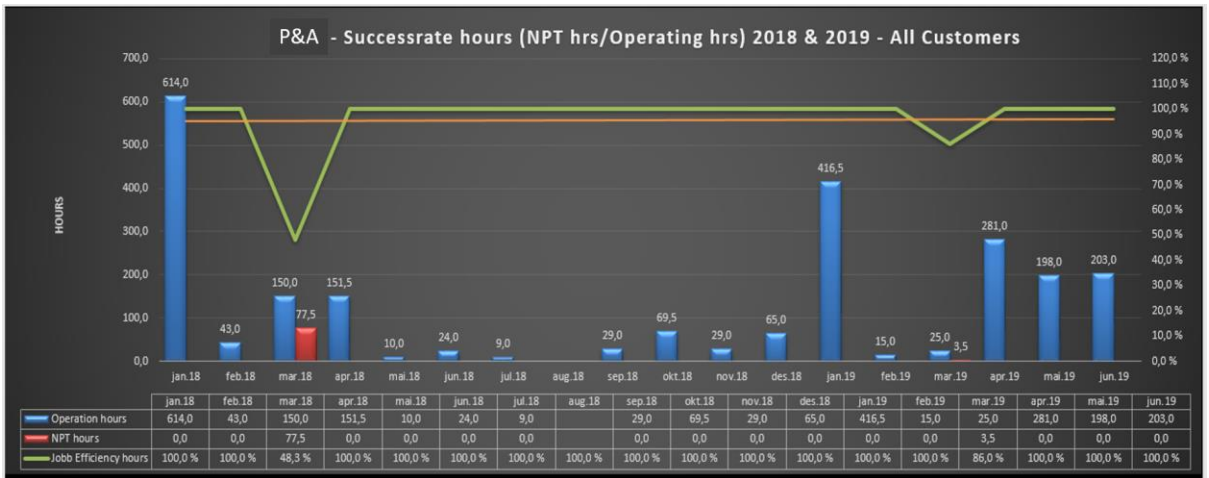
TRS Nonconformance statistics 2018 and 2019



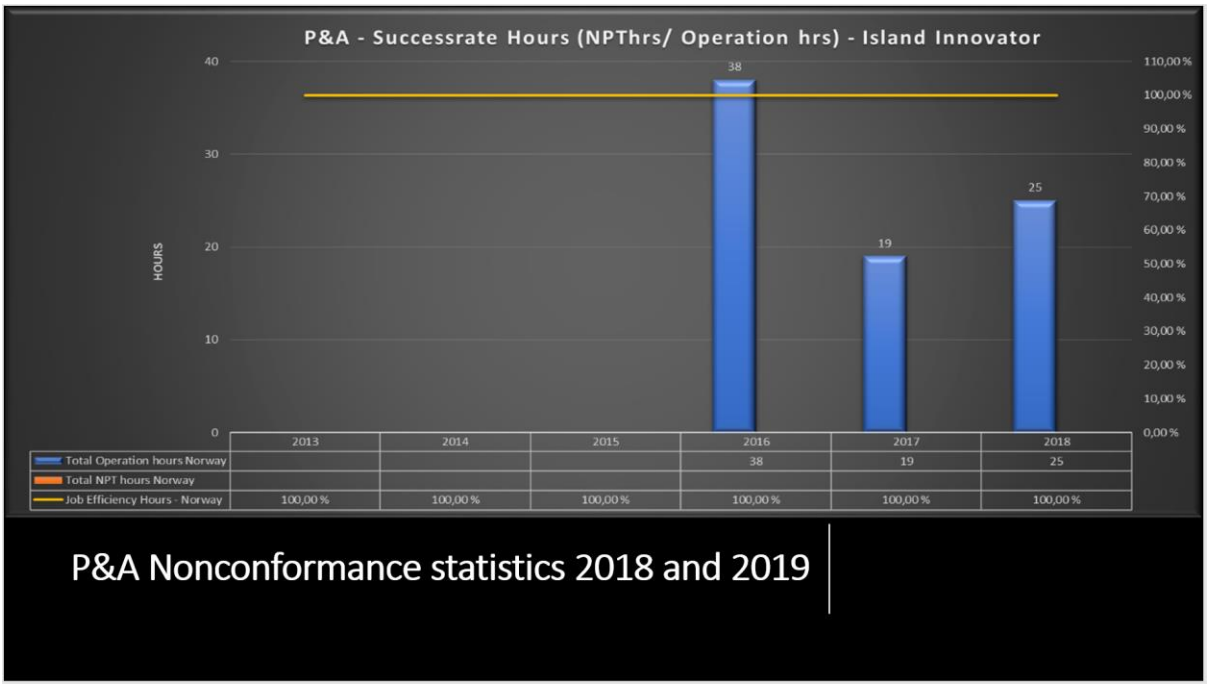
Liner Nonconformance statistics 2018 and 2019



Liner Nonconformance statistics 2018 and 2019



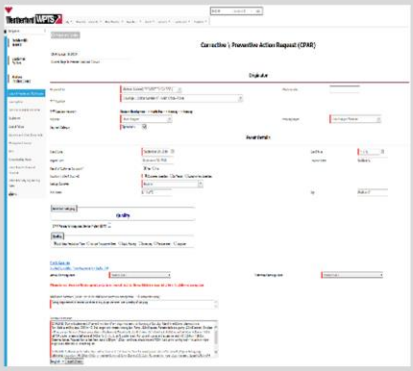
P&A Nonconformance statistics 2018 and 2019

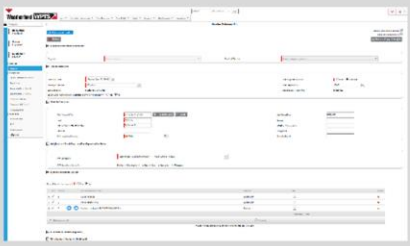


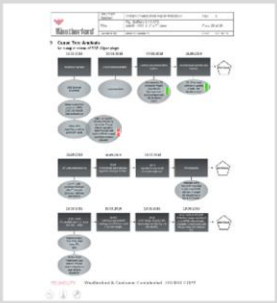
P&A Nonconformance statistics 2018 and 2019

WF PL – handling of issues that may turn up during the execution

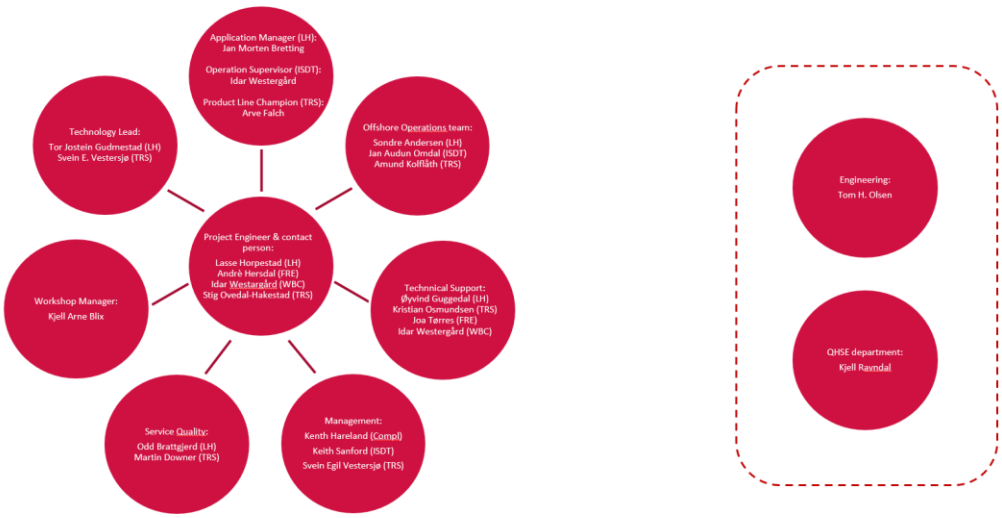
- Exemption / Deviation from procedure/ CNS
- Technical Support 24/7
- MOC
- WPTS – CPAR / TaprooT
- WPTS – job tracking





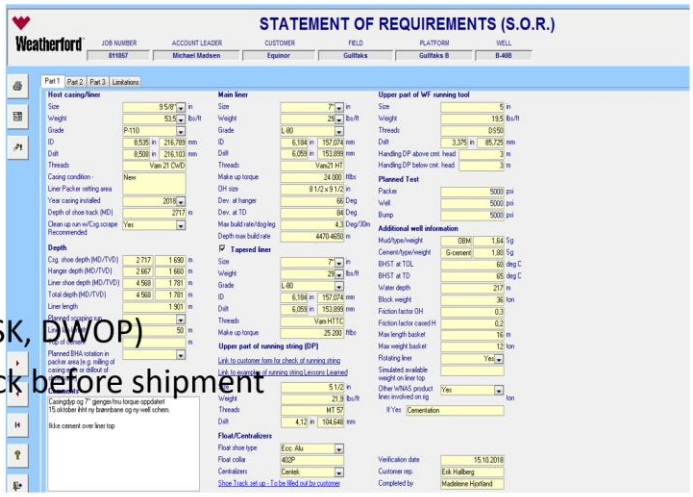


WF PL – Example Reporting lines



WF PL – Interface management

- Focal point of contact
- SOR
- OMS
- Morning meeting
- Review meeting
- Workshop brief
- Pre-job meeting (DOP, RISK, DWOP)
- Final check / QA / QC check before shipment
- Offshore brief / debrief
- Final Well Report



Working with representative/ documentation

- SOR requirements (Statement of Requirements)
- Customer DOP
- Assembly Drawings
- Simulations
- Technical Drawings
- Well Schematic
- Shipment documentation (fraktbrev)
- Customer Notification Sheet if Weatherford recommendations not being followed in planning phase and during run
- Specific plan/ lay out for rigging of TRS Power Tong – Island Innovator
- Island Innovator Survey for Casing Operasjoner

WF PL – contingencies

- Primary
- Back-up
- Contingency packer
- Operational procedures/ Running procedures
- 24/7 Operation Duty
- Risk register
- PSRP (global vs. local)

Quality documentation and traceability requirements

- The standard level is 4 (contract according to level 4)
  Aarbakke performs level 4 work for WF

- Measure sheets
- Inspection sheets
- Material certification
- MRB (Manufacturing Record Book)
- Incoming check
- Assembly sheets
- Outgoing check

KPI/ Challenges - PGNiG Shrek – Deepsea Nordkapp

Possible risks on Deepsea Nordkapp for P&A operations:

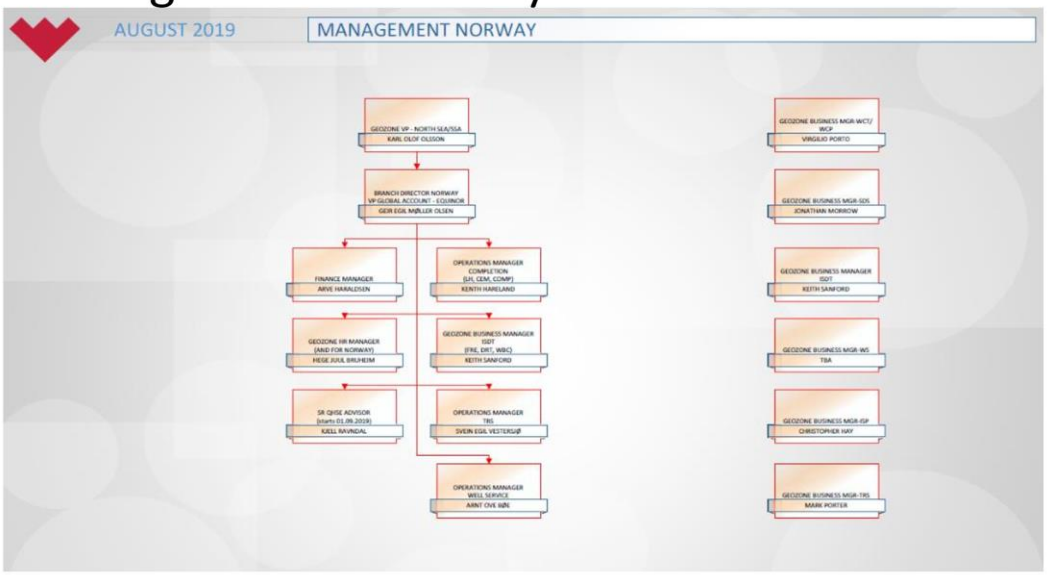
- C&P 9 5/8" Casing
  - Handling on drill floor – focus on body and hand positioning
  - Gas peak during cut-through – Float in BHA, Closed UAP – circ Kill or choke
  - Not able to release "Fish" on drill floor – Back load to WF for release onshore
- C&P 20" x 36" WH
  - Handling heavy equipment on drill floor – focus on body and hand positioning
  - Not able to pull free WH after cutting – Shallower cut

Possible risks on Deepsea Nordkapp for Liner operations:

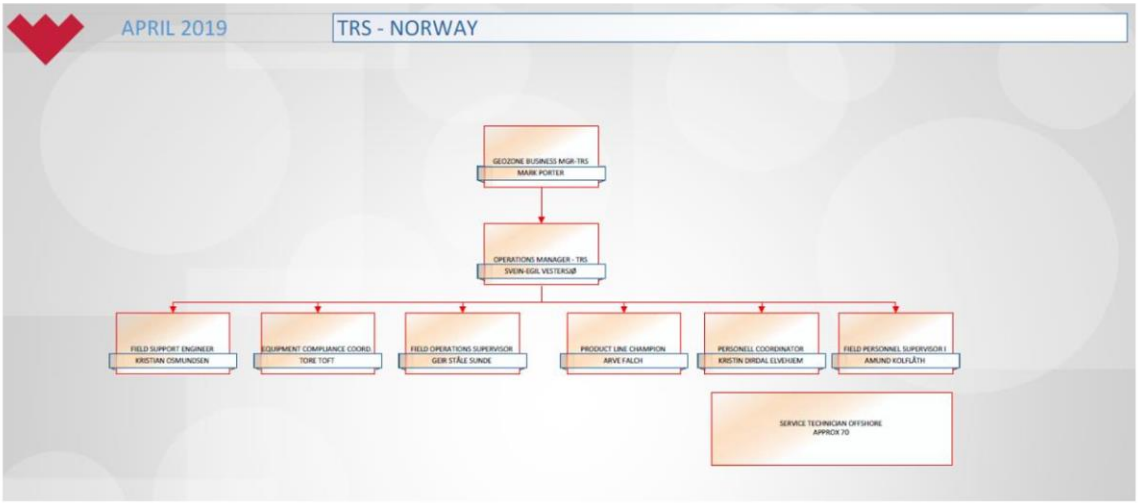
- Damage of equipment
  - Weatherford Offshore service engineers to be on drill floor when handling Liner equipment and when Liner hanger assembly goes through BOP/WH area. Also when circulating, rotating and running in open hole and when pulling running tool out of hole (going through tie-back gap and Well Head/BOP)
- Liner Setting area
  - Do not set hanger/packer in shoe track/coupling and in drilled out cement area. The risk is that the hanger may not properly set, and the packer element may not seal against the casing wall
- Semisub rig
  - Ensure rig aligned over WH when running through with liner hanger assembly. Follow operational heave limitation
- Drill pipe
  - The drill pipe used in landing string must be drifted to ensure drill pipe darts and ball can reach plugs and ball seat. The whole string should be drifted according to drill pipe specifications or minimum ID of each size of drill pipe – 1/8" (drill pipe ID – 1/8")

5. HR – Organization/ Personnel

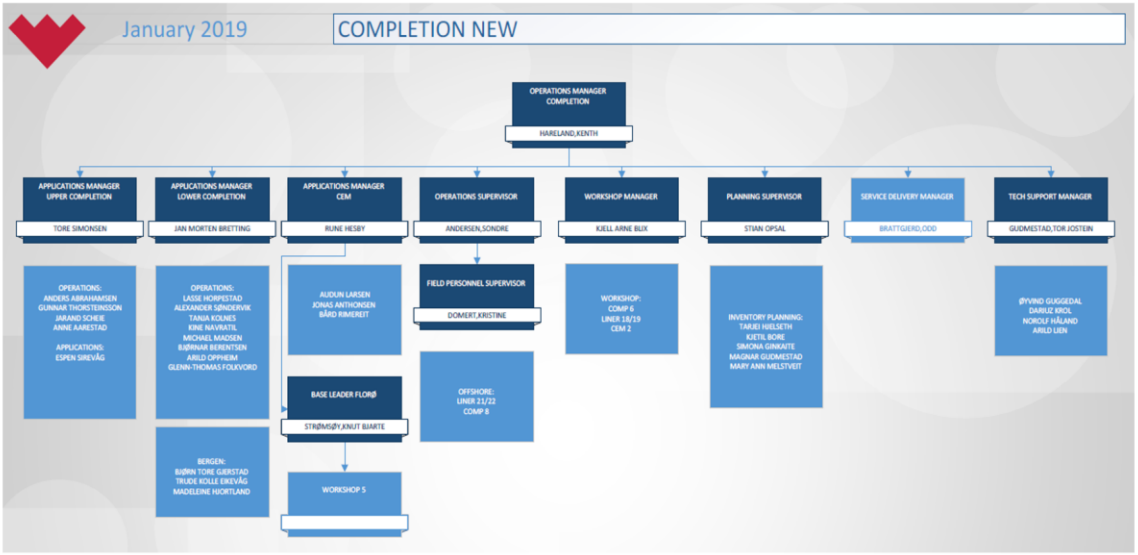
WF organization Norway



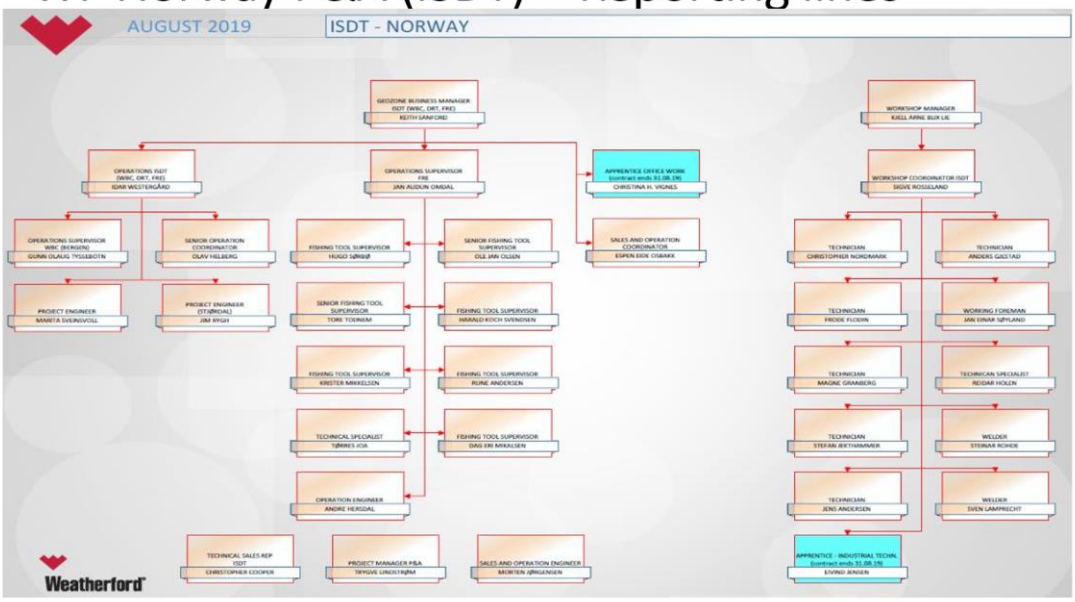
WF Norway TRS – Reporting lines



WF Norway Completion – Reporting lines



WF Norway P&A (ISDT) – Reporting lines



WF PL - resources

EMPLOYEES Liner and Engineering

- 21 Liner Offshore employees - Average seniority 17,5 years
- 10 Liner Operation employees (Project Engineers) - Average seniority 9,5 years
- 19 Liner Workshop employees – Average seniority 13,5 years
- 15 Liner Support & Management – Average 17 years
- 6 Engineering employees – Average seniority 14,5 years

71 Liner & Engineering Total employees with Average seniority 14,4 years

- 3 NDT Inspection employees
  - This department will increased with one more person soon
- 2 Make and break employees
- 2 Cleaning and wheelarbrator (preparation of equipment for inspection)

WF PL - resources

EMPLOYEES TRS

- 83 TRS Offshore employees - Average seniority 9 years
- 5 TRS Operation employees (Project Engineers) - Average seniority 10 years
- 21 TRS Workshop employees – Average seniority 10 years
- 5 TRS Support & Management – Average 15 years

114 TRS Total employees with Average seniority 11 years

EMPLOYEES ISDT

- 7 FRE/WBC/ DT Offshore employees - Average seniority 15 years
- 9 FRE/ WBC/ DT Operation employees (Project Engineers) - Average seniority 14 years
- 9 FRE/ WBC/ DT Workshop employees – Average seniority 12,5 years
- 4 FRE/ WBC/ DT Support & Management – Average 17 years

28 FRE/WBC Total employees with Average seniority 14 years

WF PL – Offshore personnel – Island Innovator

EMPLOYEES BEEN ON ISLAND INNOVATOR

- 34 TRS Offshore employees - Average days on rig: 25 days
- 29 Liner Offshore employees - Average days on rig: 6,5 days
- 4 FRE Offshore employees - Average days on rig: 7 days

67 WF Total Offshore Engineers with Average days on rig: 16 days

There will be no problem for Weatherford to supply with offshore personnel that knows Island Innovator setup (see numbers above)

These Project Engineers will be responsible for follow up DNO for the Canela well and PGNiG for the Shrek well:

- TRS – Stig Ovedal-Hakestad
- Liner – Lasse Horpestad
- FRE – André Hersdal
- WBC – Idar Westergård

WF PL – Competency and Capacity

- Employees
  - Competence Matrix
  - Employee connect
  - Experience employees – CV's
- Cross Training
- Liner capacity
  - Per Now Overcapacity in Liner department
  - Can handle 30% increase (from 10 - 13 jobs per month)
  - Using local manufacturing
  - Inhouse Engineering group in Norway
  - Equipment ordered / planned well in advance of a job
  - Equipment completion day is set 3 days before Load out date to get time for outgoing inspection and complete paperwork
- TRS capacity
  - Personnel:
    At the moment we are 84 TRS offshore field hands, some is working 5-4 rotation and some is working on a 2-4 rotation (Fixed crew) We at all time / constantly monitor our TRS personnel utilization and if too high over a certain period of time, more offshore field hands will be hired. Please also note that we already have cross trained TRS competency within our Completion, Liner, Well Services and ISDT/FRE product lines. These people are to be utilized by Tubular Running Services when / if there is any sudden peaks in the activity. (Buffer)
  - Equipment:
    Back in 2013-2015 we delivered TRS Equipment to 20+ drilling units. At the moment we are delivering equipment to 14 drilling units. We have more or less the same amount of equipment as back in 2015. Please also note that Weatherford Aberdeen belongs to the same "Geozone" and we are sharing equipment from each other to ensure maximum equipment utilization.

WF PL – Competency and Capacity

- P&A capacity
  - Per Now we have capacity in ISDT
  - Can handle 30% increase
  - We have Min/Max on all the equipment, this men if the quantity is les than Min there will be order new equipment
  - Equipment planned well in advance of a job
  - Equipment completion day is set 3 days before Load out date to get time for outgoing inspection and complete paperwork

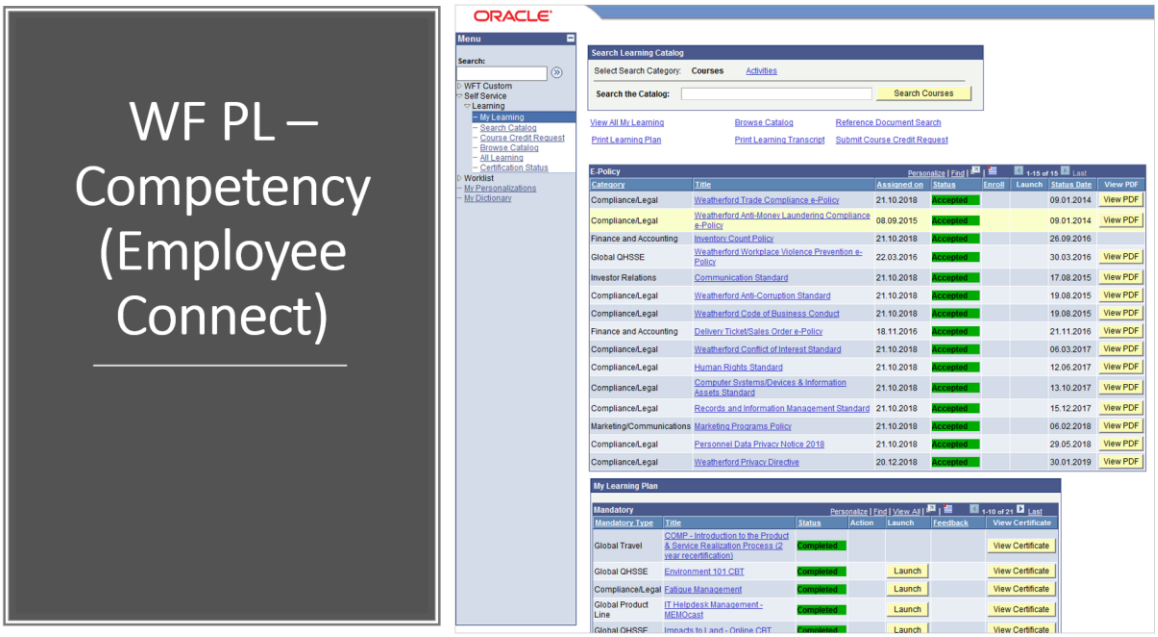
WF PL – Competency Matrix

		OFFSHORE									
		AADNE AASHEIM ANDERSEN	ANN KARIN W. LARSEN	ASGEIR MICHAEL RAVNDAL	CATO BIRKELAND	ENDRE HÅLAND	FRODE KALAND	HELGE FOSSO	INGE HORVEI	JOHN-IVAR ERIKSEN	KENT MARIUS SOLHEIM
Employee ID		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Right Start Induction	Company Induction Classroom 2 - 4 days	fullført	fullført	fullført	fullført	fullført	fullført	fullført	fullført	fullført	fullført
Mentor Briefing	Including assessment briefing	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Classroom Courses	Liner 2 Workshop Course (classroom/practical) 8 days	bestått	bestått	senior	bestått	senior	bestått		bestått	senior	senior
	Liner 1 Course (classroom) 5 days	bestått	bestått	senior	bestått	senior	bestått		bestått	senior	senior
	Calculations (classroom) 5 days	senior	senior	senior	senior	senior	senior		senior	senior	senior
	Weatherford Performance Tracking System (classroom) 1/2 day	ok	ok	ok	ok	ok	ok	deltatt	ok	bestått	ok
	PDM	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Online Courses	All mandatory courses as assigned in My Learning										
Self Study	Fase 1	senior	senior	senior	bestått	senior	senior	bestått	senior	bestått	
	Fase 2	senior	senior	senior	bestått	senior	senior	bestått	senior	bestått	
	Fase 3	senior	senior	senior	bestått	senior	senior		senior		
	Fase 4	senior	senior	senior	senior	senior	senior		senior		
Competence Assurance	Drilling - Level 1 Well Construction Products Liner Systems	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
	Drilling-Level 2 Well Construction pro										
	Drilling Level 2 Offshore		100 %	100 %	100 %	100 %		100 %			
	Drilling - Level 3 Well Construction Products Liner Systems										
Offshore Trainee Experience	Screen 1		senior	senior	senior	senior	senior	810295	senior	senior	ok
	Screen 2		senior	senior	senior	senior	senior		senior	senior	ok
	Cement 1		senior	senior	senior	senior	senior		senior	senior	810431
	Cement 2		senior	senior	senior	senior	senior		senior	senior	ok
	Additional 1		senior	senior	senior	senior	senior	810225	senior	senior	810227
	Additional 2		senior	senior	senior	senior	senior	800431	senior	senior	809929
	Additional 3		senior	senior	senior	senior	senior	810298	senior	senior	810237
	Additional 4		senior	senior	senior	senior	senior		senior	senior	ok
	Additional 5		senior	senior	senior	senior	senior		senior	senior	ok
	Additional 6		senior	senior	senior	senior	senior		senior	senior	ok
Right Start Addition											
Offshore skills	Cemented Liner with MX	3	3	3	4	3	3	3	3	3	3
Grades:	Cemented Liner with MBS	3	3	3	4	3	3	3	3	3	3
0 - No training	Screen Liner in mainbore	3	3	3	4	3	3	3	3	3	3
1 - Got training	Screen Liner junction	3	3	3	4	3	3	3	3	3	3
2 - Can function as 2nd hand	Cemented Liner with ACP	2	3	3	2	3	3	1	3	1	1
3 - Crewleader	Truform expandable liner hanger	0	0	0	0	0	0	0	0	0	0
4 - Trainer											
Dav tool pres.					deltatt	deltatt	deltatt				
VBC course				bestått	bestått	bestått	bestått				bestått
Fagprøve						compl				compl	compl
Fishing Technology course			bestått								

		OFFSHORE									
		KLAUS EINAR NODLAND	KRISTIN ELVEHJEM	NILS PEDER BJORLAND	OLE RAYMOND BERGE	REIDAR HAUGLAND	SIGURD RIBE	THOMAS KVAM	TOR JAN SALTE	MADS ROLAND WIG	ALV EIRIK SKARSTEIN
Employee ID		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Right Start Induction	Company Induction Classroom 2 - 4 days	fullført	fullført	fullført	fullført	fullført	fullført	fullført	fullført	fullført	fullført
Mentor Briefing	Including assessment briefing	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	
Classroom Courses	Liner 2 Workshop Course (classroom/practical) 8 days	bestått	bestått	senior		bestått	bestått	bestått	bestått	bestått	bestått
	Liner 1 Course (classroom) 5 days	bestått	bestått	senior		bestått	bestått	bestått	bestått	bestått	bestått
	Calculations (classroom) 5 days	senior	senior	senior		senior	senior	senior	senior		
	Weatherford Performance Tracking System (classroom) 1/2 day	bestått	bestått	ok	bestått	ok	ok	ok	ok	deltatt	deltatt
	PDM	100 %	100 %	100 %		100 %	100 %	100 %	100 %		bestått
Online Courses	All mandatory courses as assigned in My Learning										
Self Study	Fase 1	senior	bestått	senior		senior	senior	bestått	bestått		
	Fase 2	senior		senior		senior	senior	bestått	bestått		
	Fase 3	senior		senior		senior	senior	bestått	bestått		
	Fase 4	senior		senior		senior	senior	senior	senior		
Competence Assurance	Drilling - Level 1 Well Construction Products Liner Systems	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
	Drilling-Level 2 Well Construction pro										
	Drilling Level 2 Offshore									100 %	
	Drilling - Level 3 Well Construction Products Liner Systems										
Offshore Trainee Experience	Screen 1	ok	ok	ok		ok	ok	ok	ok	810745	
	Screen 2	ok	810029	ok		ok	ok	ok	ok		
	Cement 1	ok	810101	ok	810363	ok	ok	ok	ok		
	Cement 2	ok	809949	ok	810363	ok	ok	ok	ok		
	Additional 1	ok	810043	ok	810592	ok	ok	ok	ok	810706	
	Additional 2	ok	810044	ok	810436	ok	ok	ok	ok		
	Additional 3	ok	810233	ok		ok	ok	ok	ok		
	Additional 4	ok	810395	ok		ok	ok	ok	ok		
	Additional 5	ok	810129	ok		ok	ok	ok	ok		
	Additional 6	ok	ok	ok		ok	ok	ok	ok		
Right Start Addition											
Offshore skills	Cemented Liner with MX	4	3	4	3	3	3	4	3	3	1
Grades:	Cemented Liner with MBS	4	3	4	3	3	3	4	3	3	1
0 - No training	Screen Liner in mainbore	4	3	4	3	3	3	4	3	3	1
1 - Got training	Screen Liner junction	4	3	4	3	3	3	4	3	3	1
2 - Can function as 2nd hand	Cemented Liner with ACP	3	1	3	1	3	3	3	2	1	0
3 - Crewleader	Truform expandable liner hanger	0	0	1	0	0	0	0	0	0	0
4 - Trainer											
Dav tool pres.			deltatt								
VBC course				bestått				bestått			
Fagprøve			compl					compl	compl		
Fishing Technology course											

		WORKSHOP											
		ALF PETTER FURÅS	ARIL SKRETTING	ARILD LIEN	ARNSTEIN HAUGSDAL	ARVID RASMUSSEN	ATLE FRIESTAD	Alice Moen	Roger Skjæveland	GEIR EGIL GRUDE	GUNNAR OBRESTAD	JAN-ERIK JOHNSEN	[illegible]
Employee ID		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]
Right Start Induction	Company Induction Classroom 2 - 4 days	fullført	fullført	fullført	fullført	fullført	fullført	fullført	fullført	fullført	fullført	fullført	[illegible]
Mentor Briefing	Including assessment briefing	100 %	100 %	100 %	100 %	100 %	100 %	fullført	100 %	100 %	100 %	100 %	[illegible]
Classroom Courses	Liner 2 Workshop Course (classroom/practical) 8 days	bestått	bestått		bestått	bestått	bestått	bestått	bestått	bestått	bestått	bestått	[illegible]
	Liner 1 Course (classroom) 5 days	bestått	bestått		bestått	bestått	bestått	bestått	bestått	bestått	bestått	bestått	[illegible]
	Calculations (classroom) 5 days												
	Weatherford Performance Tracking System (classroom) 1/2 day			deltatt				deltatt	deltatt		deltatt		[illegible]
	PDM	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	[illegible]
Online Courses	All mandatory courses as assigned in My Learning												
Self Study	Fase 1	N/A	N/A	N/A	N/A	N/A	N/A	fullført		N/A	N/A	N/A	[illegible]
	Fase 2	N/A	N/A	N/A	N/A	N/A	N/A	fullført		N/A	N/A	N/A	[illegible]
	Fase 3	N/A	N/A	N/A	N/A	N/A	N/A	fullført		N/A	N/A	N/A	[illegible]
	Fase 4	N/A	N/A	N/A	N/A	N/A	N/A			N/A	N/A	N/A	[illegible]
Competence Assurance	Drilling - Level 1 Well Construction Products Liner Systems	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	[illegible]
	Drilling-Level 2 Well Construction pro							100 %	100 %				
	Drilling Level 2 Offshore												
	Drilling - Level 3 Well Construction Products Liner Systems												
Offshore Trainee Experience	Screen 1												
	Screen 2												
	Cement 1												
	Cement 2												
	Additional 1												
	Additional 2												
	Additional 3												
	Additional 4												
	Additional 5												
	Additional 6												
Right Start Addition								fullført	fullført				
Offshore skills	Cemented Liner with MX												
Grades:	Cemented Liner with MBS												
0 - No training	Screen Liner in mainbore												
1 - Got training	Screen Liner junction												
2 - Can function as 2nd hand	Cemented Liner with ACP												
3 - Crewleader	Truform expandable liner hanger												
4 - Trainer													
Dav tool pres.			deltatt	deltatt			deltatt	deltatt	deltatt		deltatt		
VBC course													
Fagprøve		ind.m	ind.m	platearb	ind.m			compl	trykk		ind.m		
			former					ind.m	ind.m				
Fishing Technology course													

WF PL – Competency (Employee Connect)



WF PL – Job Descriptions

JOB DESCRIPTION

Weatherford

Code | Title: Technical Services Manager | Date: 27.01.2014 | Location: Norway | Effective: 27.01.2014

1 JOB DETAILS: The procedure describes the responsibilities for the Technical Services Manager.

2 JOB SCOPE: Liner Group includes the following services: Liner Systems, Solid Expandable and Inflatables Packers.

Department	Liner Systems	Reports To	Product & Service Line Manager
Division	EEO Code	Job Type	WC Code

3 JOB DIMENSIONS (Only for Management or Executive Staff)

Number of direct reports:	0-5	Total number in team managed:	5-10
Budgetary responsibility (USD):	N/A	Revenue responsibility (USD):	N/A

Other dimensions appropriate to the job: N/A

4 DUTIES & RESPONSIBILITIES:

Performance Improvement

Daily responsibility of the Technical Group in Liner

Prepare and develop sales and marketing material and presentations to customers.
Also write and present technical papers.
Strengthen the focus on customer care

Support Project Engineer Group in all phases of planning, and support Operations in all phases of execution
Participate in design reviews, and if necessary in Job briefs

Actively participate in problem solving for Offshore operations and CPAR closing

Responsible for HMS and KPI for the group

Conduct other tasks as designated by manager, dictated by operational or administrative needs.

Assist the contract department with upcoming tenders for Liner

Other

Know and understand Weatherford Quality Policy and comply with all requirements of the Quality Systems Manual, Operating and Technical Procedures and Workplace Instructions.

Comply with all safety rules and company policies of Weatherford.

Work assignments carried out to the highest quality level.

JOB DESCRIPTION

Weatherford

Code | Title: Service Quality Manager Liner Group | Date: 20.11.2013 | Location: Norway | Effective: 20.11.2013

1 JOB DETAILS: The procedure describes the responsibilities for the Service Quality Manager, Liner Group, Weatherford Norge AS.

2 JOB SCOPE: The position will largely support the product lines (Product Lines (PL's)), Workshop and/or Warehouse (Operations) in their effort to develop, improve and approve SQ-processes in accordance with applicable procedures, laws and regulations Weatherford Norge AS (WNAS) activities.

Department	Liner Group	Reports To	Product & Service Line Manager
Division	EEO Code	Job Type	WC Code

3 JOB DIMENSIONS (Only for Management or Executive Staff)

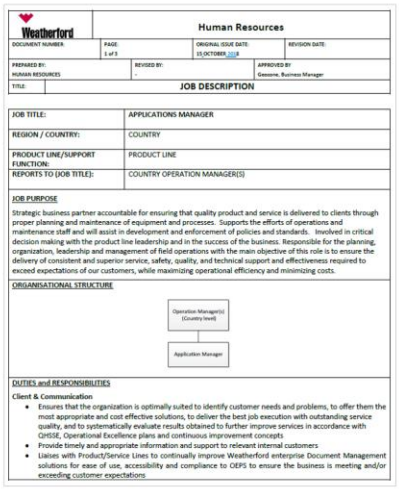
Number of direct reports:	0	Total number in team managed:	N/A
Budgetary responsibility (USD):	N/A	Revenue responsibility (USD):	N/A

Other dimensions appropriate to the job: N/A

4 DUTIES & RESPONSIBILITIES:

Performance Improvement

- Ensure that the quality system and operational procedures are detailed enough, current and robust enough for the planning and execution of flawless operations
- Cooperate in the implementation of Weatherford's quality system (WMS), processes and procedures Work with Operations in developing effective and sustainable operational control plans and processes, etc.
- Responsible for monitoring, reporting and timely closing of Non-Conformances/deviations of our own system and/or customers systems such as CPAR, SYNERGI and SIN etc.
- Participate in investigations of failures, and responsible for final report of same in close cooperation with the department.
- Responsible for the tracking, interpretation and responding to FSG data trends.
- Participate in customer KPI meetings
- Timely closure of relevant actions from customer KPI meetings/reports
- Identify problems and propose lasting operational improvements through operational commitment in the Workshop and during operations based on data and facts gathered
- Actively support the operations in conjunction with internal, external and customer audits.
- Participate in relevant pre- and post job activities to ensure quality in any operation.
- Be a good supporter for the Workshop Manager, his deputy, Warehouse Manager, PL leader and respective Business Group Manager, within quality assurance -and continuous improvement activities.
- Take advantage of continuous improvement tools to support Operations, make the process improvements together with responsible leaders and conduct Management of



Weatherford

Human Resources

DOCUMENT NUMBER:	PAGE: 1 of 3	ORIGINAL ISSUE DATE: 15 OCTOBER 2018	REVISION DATE:
PREPARED BY: HUMAN RESOURCES	REVISED BY: -	APPROVED BY: Gassone, Business Manager	

TITLE: JOB DESCRIPTION

JOB TITLE:	APPLICATIONS MANAGER
REGION / COUNTRY:	COUNTRY
PRODUCT LINE/SUPPORT FUNCTION:	PRODUCT LINE
REPORTS TO (JOB TITLE):	COUNTRY OPERATION MANAGER(S)

JOB PURPOSE

Strategic business partner accountable for ensuring that quality product and service is delivered to clients through proper planning and maintenance of equipment and processes. Supports the efforts of operations and maintenance staff and will assist in development and enforcement of policies and standards. Involved in critical decision making with the product line leadership and in the success of the business. Responsible for the planning, organization, leadership and management of field operations with the main objective of this role is to ensure the delivery of consistent and superior service, safety, quality, and technical support and effectiveness required to exceed expectations of our customers, while maximizing operational efficiency and minimizing costs.

ORGANISATIONAL STRUCTURE

Operation Manager(s) (Country level)

Application Manager

DUTIES and RESPONSIBILITIES

Client & Communication

- Ensures that the organization is optimally suited to identify customer needs and problems, to offer them the most appropriate and cost effective solutions, to deliver the best job execution with outstanding service quality, and to systematically evaluate results obtained to further improve services in accordance with QHSSE, Operational Excellence plans and continuous improvement concepts
- Provide timely and appropriate information and support to relevant internal customers
- Liaises with Product/Service Lines to continually improve Weatherford enterprise Document Management solutions for ease of use, accessibility and compliance to OEPS to ensure the business is meeting and/or exceeding customer expectations

WF PL – Job Descriptions

JOB DESCRIPTION

Weatherford

Code	Title : Technician III	Date	01.10.2013
		Location	Norway
		Effective	01.10.2013

1 JOB DETAILS: The procedure describes the responsibilities for Technician III, Workshop, Forus.

2 JOB SCOPE: Perform Technician Level Repair and Maintenance activities according to policies and procedures.

Department	Workshop		Reports To	Workshop Manager	
Division		EEO Code	Job Type	Non-Exempt	WC Code

3 JOB DIMENSIONS (Only for Management or Executive Staff)

Number of direct reports:	0	Total number in team managed:	0
Budgetary responsibility (USD):	0	Revenue responsibility (USD):	0
Other dimensions appropriate to the job: some domestic travel can occur			

4 DUTIES & RESPONSIBILITIES:

Perform and comply with repair and maintenance policies and procedures as directed
Dismantle and reassemble drilling tools/equipment in a safe and efficient manner in compliance with work instructions
Inspect parts/components for wear and necessary repair in accordance with procedures and guidelines.
Determine when more detailed inspection is needed.
Identify hazards in the shop and bring them to the management's attention.
Learn and become proficient in applicable work order processes and procedures.
Perform various other duties and activities as assigned by supervisor within the physical constraints of the job.
Rotation and work within different product lines may occur
Responsible for sustaining 5S to keep workshop area efficiently organized and equipped with necessary supplies and tools.
Attend toolbox-, team- and safety meetings.
Substitute for R&M Lead in his/her absence.
Responsibility of your own self-development, in compliance with company's competence assessment program.
Responsible to take good care of the company's equipment and tools.
Conduct CBT courses and attend classroom courses in arrangement with Workshop Coordinator
Shared responsibility with Workshop Coordinator and Working Foreman for training and technical

kiwa

NDT Certificate

according to

NS-EN ISO 9712:2012

NORDTEST

Certificate number: 3432-N2-MT
Test method: Magnetic (MT)
Level: 2
Industrial sector: Pre and in-service testing of: w and t
Supplemental sector: -
Sector limitations: None
Name: Gravdal, Eirik
Date of Birth: 1971-02-12
Other:
Date of first issue: 2017-03-13
Date of renewal:
Date of expiry: 2022-03-13

Based on the requirements of examination and certification according to:
NS-EN ISO 9712 / NORDTEST DOC GEN 010

Operating autorization by employer:
Weatherford Norge AS
NTO no.: N-054

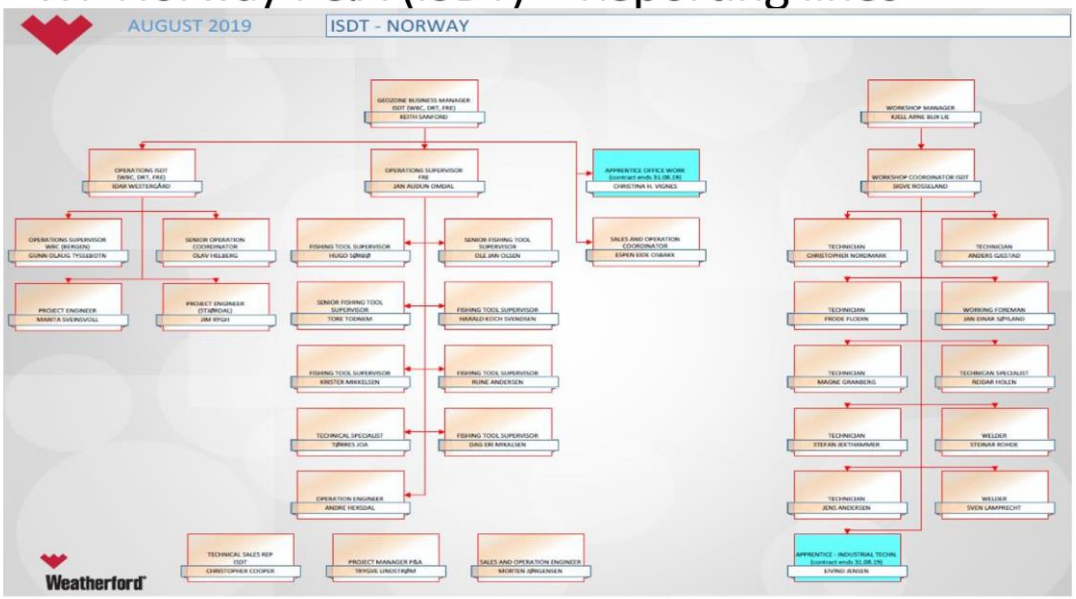
2017-03-13 Hopen
2018-03-28 Hopen
2018-03-28 Hopen
2019-01-08 Hopen

Kiwa Teknologisk Institutt AS
Stavanger, 2017-03-15

Certification responsible

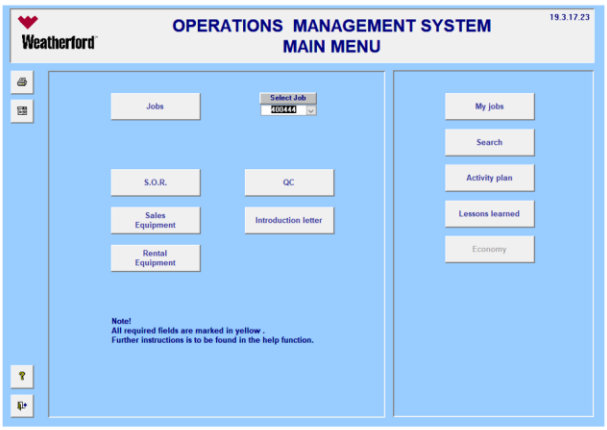
6. P&A

WF Norway P&A (ISDT) – Reporting lines



WF PL – Operation Management System (OMS)

OMS | Norway Liner/ P&A Planning databases | OMS Presentation



- SOR
- Sales Equipment
- Rental Equipment
- Lessons Learned
- QC
  - Design Review
  - Workshop Brief
  - Offshore Brief
  - Offshore Debrief
  - Best Practices
  - Rig Best Practices
  - Risk Management
- Running Procedure
- Activity Plan
- Etc.

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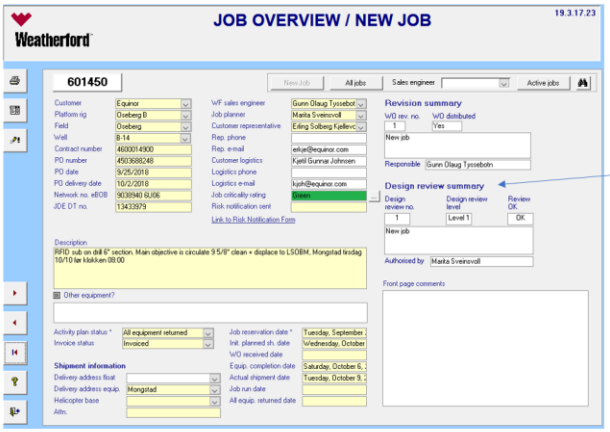

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- Activity Plan
- Etc.

Working with representative/ documentation

- SOR requirements (Statement of Requirements)
- Customer DOP
- Assembly Drawings
- Simulations
- Technical Drawings
- Well Schematic
- Shipment documentation (fraktbrev)
- MOC Sheet if Weatherford recommendations not being followed in planning phase and during run

Incident & Lessons Learned Example

CPAR# 3793498 Wellesley/ Balcom/ Transocean Arctic -25/1-13 – Stabilizer wrong size

Weatherford

Root Cause and Action Items

Row No	Causal Factor	Difficulty	Basic Cause	Bear Root Cause	Root Cause
1	Procedure not followed during inspection of the stabilizer - Not gauged during inspection. Procedure (DH-04-03-01-18) states clearly that all Stabilizers/Mills must be ring gauged.	Human Performance Difficulty	Procedures	Followed Incorrectly	No check-off

ActionPoints

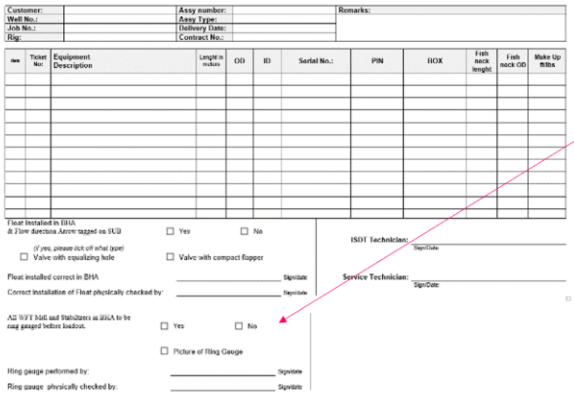
Action Point Number	Action Type	Priority	Level of Control	Proposed Action Point Description	Issue Date	Allocated To	Progress/Actions Taken	Due Date	Completion Date	Email Sent*
1	Preventative	Medium	Work Practice and Administrative Controls	Discuss and review CPAR,Procedure for stabilizers. Suggest next morning meeting.	March 21, 2019	Gravdal, Eirik (WORKSHOP COORDINATOR)	Has brought up at the morning meeting that we all have to follow the procedure regards to write the stabilizer size on the report. procedure has been gone thought of all the inspectors.	March 27, 2019	March 29, 2019	☑
2	Procedure not followed during the assembly of the BHA - Technician did not gauge stabilizer before assembly of BHA. Procedure (DH-04-03-01-18) states clearly that all stabilizers/Mills must be ring gauged.		Human Performance Difficulty	Procedures	Followed Incorrectly	Missed second check				

ActionPoints

Action Point Number	Action Type	Priority	Level of Control	Proposed Action Point Description	Issue Date	Allocated To	Progress/Actions Taken	Due Date	Completion Date	Email Sent*
1	Preventative	Medium	Work Practice and Administrative Controls	Discuss and review CPAR,Procedure for stabilizers. Suggest next upcoming morgen-meeting.	March 21, 2019	Rosseland, Sigve (WORKSHOP COORDINATOR ISDT)	done	March 22, 2019	March 22, 2019	☑
2	Corrective	Medium	Work Practice and Administrative Controls	Revised Pre-Made BHA Sheet, Discuss and review revision. Note - additional gauge-check of Stabilisers and mills.	March 24, 2019	Hersdal, Andre (OPERATION ENGINEER)	Pre-made BHA Sheet er oppdatert med "corrective" aksjonspunkter	March 24, 2019	April 30, 2019	☑

Incident & Lessons Learned Example

CPAR# 3793498 Wellesley/ Balcom/ Transocean Arctic -25/1-13 – Stabilizer wrong size



Customer:
Well No.:
Job No.:
Rig:

Assy number:
Assy Type:
Delivery Date:
Contract No.:

Remarks:

no	Ticket No:	Equipment Description	Lenght in inches	OD	ID	Serial No.:	PIN	BOX	Fish neck length	Fish neck OD	Make Up ftlbs

Float Installed in BHA
& Flow direction Arrow tagged on SUB ☐ Yes ☐ No

(if yes, please tick off what type)
☐ Valve with equalizing hole ☐ Valve with compact flapper

Float installed correct in BHA _____ Sign/date

Correct installation of Float physically checked by: _____ Sign/date

All WFT NM and Stabilizers in BHA to be ring gauged before loadout. ☐ Yes ☐ No

☐ Picture of Ring Gauge

Ring gauge performed by: _____ Sign/date

Ring gauge physically checked by: _____ Sign/date

ISDT Technician: _____ Sign/Date

Service Technician: _____ Sign/Date

Implemented Corrective actions

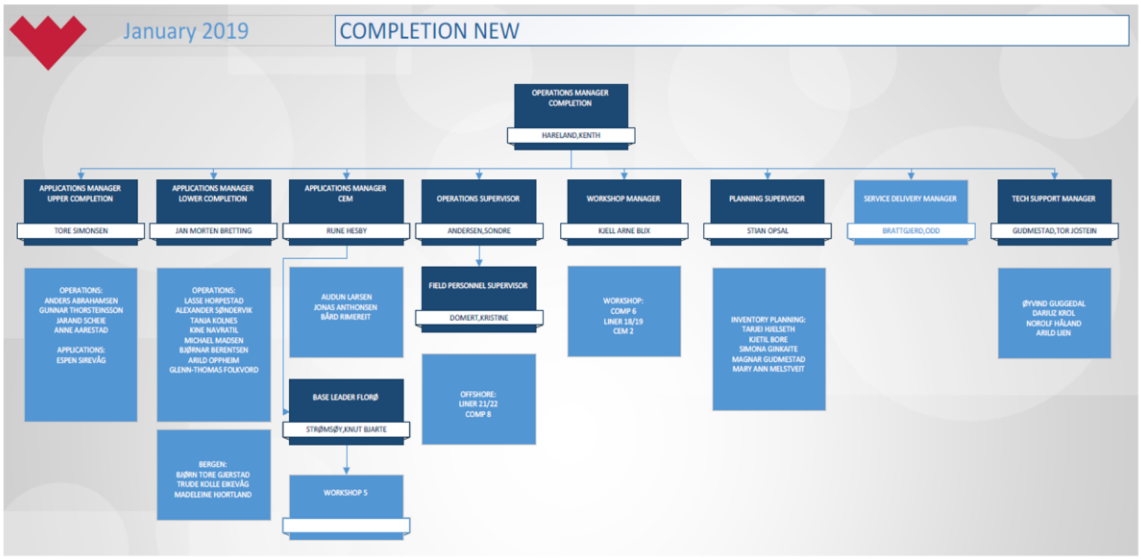
FRE "*Pre-Made BHA Sheet*" updated with corrective actions from the CPAR.

Synergy effect of using both fishing and casing running/pulling from same company

- Synergy effect if ISDT is guaranteed aboard on some specific sections.
- Usually, ISDT does not tend to be onboard before there are challenges or in connection with Sidetracks / Whipstock or MOST operations.
- If customer plans to have ISDT personnel on board when TRS runs 30'', 20'' 9 5/8 " Casing, then ISDT may need to send one of their persons with TRS competence (if they have this available) so that we can reduce our TRS crew.

7. Liner

WF Norway Completion – Reporting lines



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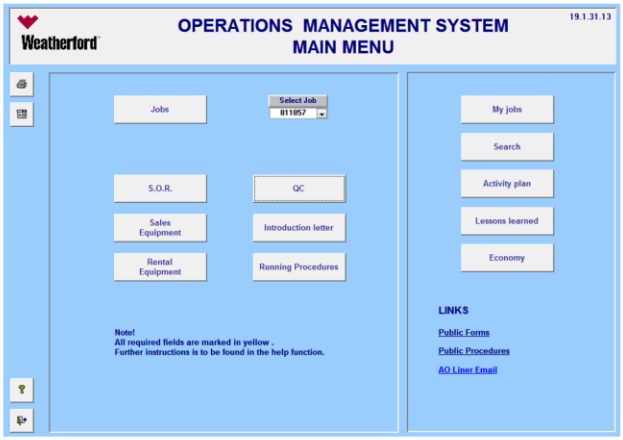

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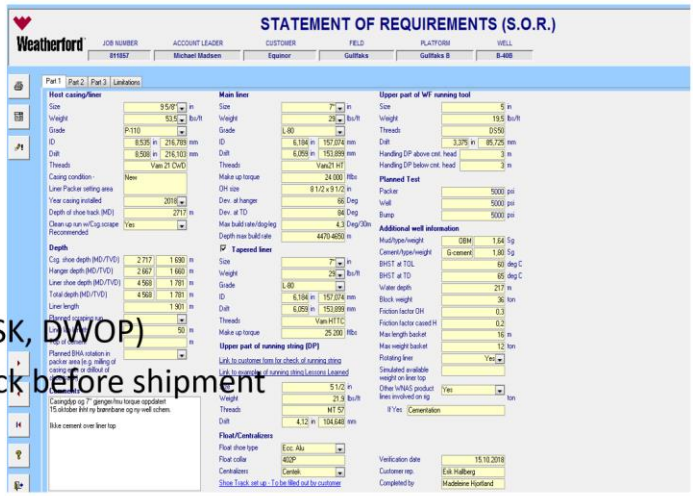
WF PL – Interface management

- Focal point of contact
- SOR
- OMS
- Morning meeting
- Review meeting
- Workshop brief
- Pre-job meeting (DOP, RISK, DWOP)
- Final check / QA / QC check before shipment
- Offshore brief / debrief
- Final Well Report



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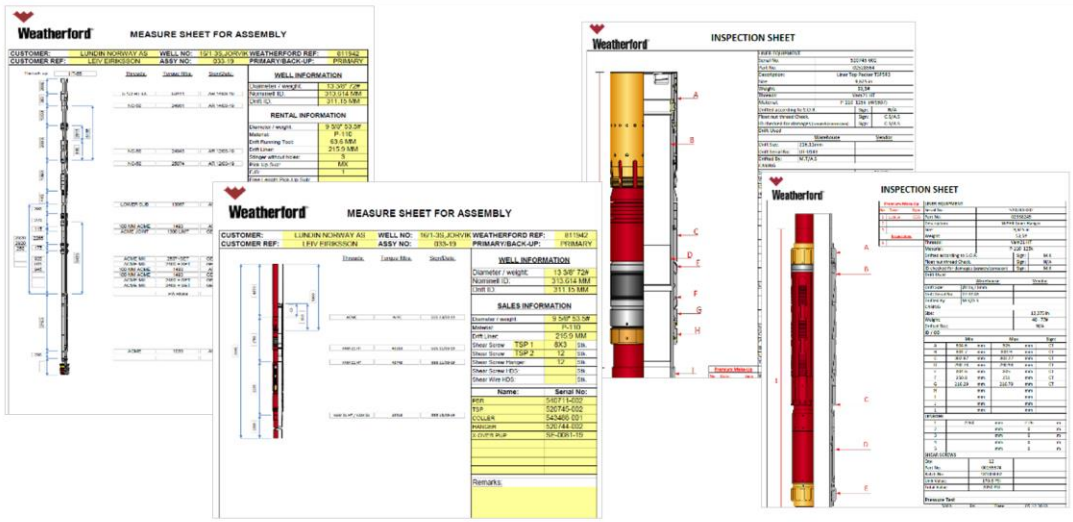
Liner Assembly Drawings/ Measures



Weatherford Norway, Liner Hanger Systems

We deliver quaility on time

- Liner Hanger equipment is made and deliverd by Aarbakke, located at Bryne
- Local engineering group and testing facilities at Ullandhaug (IRIS). Makes us able to make changes on short notice.
- Offshore personnel for running the liner are experienced and are cross-trained in wellbore cleaning and some completion equipment.
- We have equipment suitable for HT / HP and challenging wells

Best practice for running Weatherford Liner System.

- Weatherford recommends that the well has been properly cleaned to ensure the liner reaches TD. Weatherford offshore personnel are cross-trained to perform Wellbore Cleaning operations.
- The drill pipe used in landing string must be drifted to ensure drill pipe darts and ball can reach plugs and ball seat. The whole string should be drifted according to drill pipe specifications or minimum ID of each size of drill pipe – 1/8" (drill pipe ID – 1/8")
- X-Overs to be checked for Lead in to prevent darts to hang up (lead in should be 15 degrees, transition edges should be well rounded etc.)
- It is not recommended to do a BOP-test after drilling, before running the liner. Debris from drilling, milling, etc. can easily settle in cavities in the BOP. When engaging pipe rams and bag in the BOP, the debris can be pushed back in the riser. This can cause problems with regards to reaching TD and / or damage to the packer element or other parts of the liner hanger assy. Clean out of the BOP is recommended to be carried out with a washing tool that has junk catcher. WF BOP washing tool is a recommended choice, as it is the only washing tool with junk catcher
- Do not set hanger/packer in shoetrack/coupling and in drilled out cement area. The risk is that the hanger may not properly set, and the packer element may not seal against the casing wall. Weatherford recommends to set the liner system minimum one stand (30m/100ft) above the shoe track or drilled/milled area.
- It is recommended to send both day and night offshore service engineers out in due time. Otherwise they may have limited time to get a thorough overview of the rig and the job. The offshore engineers shall also be present at rig when running tool is retrieved to surface.

Best practice for running Weatherford Liner System.

- Weatherford Offshore service engineers to be on drill floor when handling Liner equipment and when Liner hanger assembly goes through BOP/WH area. Also when circulating, rotating and running in open hole.
- When pulling running tool out of hole, Weatherford offshore service engineer shall be present on drill floor when going through tie-back gap and Well Head/BOP.
- Casing wear and ovality must be taken into consideration for packer sealing and casing integrity in slips area, and should be based on evaluation of caliper logs.
- Assure that there is no float in the running string to avoid trapping pressure.
- Clarify in Customer Drilling Guidelines / Detailed Operation Procedure: Who to give and when to give commands (Drop of ball, darts etc.)
- If no bump of plug, pump max half shoe track
- Ensure that Drill Pipe is ventilated prior to setting packer (no valve closed – IBOP etc.)
- Weatherford recommends to run VariForm centralizers. Centralization simulations will be provided.

Best practice for running Weatherford Liner System - Floater.

- Semisub rig (Floater) - Ensure rig aligned over WH when running through with liner hanger assembly
- Semisub rig (Floater) - Operational heave limitation: Maximum 3 m heave while RIH with liner
- Semisub rig (Floater) - Operational heave limitation: Maximum 1.5 m heave while setting, releasing and cementing liner equipment
- Semisub rig (Floater) – Strong wind could be an issue