



WELLESLEY
PETROLEUM



Verification Report

IKM Cleandrill 2018 – MRR System

AUDITEE					
IKM Cleandrill					
AUDIT NO.					
EX-2018-05 / KALL-WLSLY-S-RA-0110					
APPROVAL					
Rev.no	Date:	Auditor:	QA by:	Auditee:	Comments:
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Summary

Reference is made to the notification sent 7th March 2018 with regards to the Well Expertise and Wellesley's Verification to be conducted at IKM Cleandrill's premises at Straume in Bergen.

The verification was conducted 15th March. Wellesley and Well Expertise were impressed by the attention and preparation given to the verification and are grateful to all concerned.

IKM Cleandrill's MRR systems have been developed over a significant period of time and are thus functioning well. However, equipment upgrades such as hydraulic fences on the LARS unit enhances the impression on IKM Cleandrill's commitment with regards to continual improvement and safe performance.

There were no non-conformances recorded, however one observation and three improvement suggestions were recorded.

The commitment from managerial positions to participate in operational meetings and being "hands on" and proactive in delivery a full service is something we can only encourage continues.

1.0 Introduction

IKM Cleandrill will be providing MRR services during top hole drilling, to Wellesley via a limited assignment of Well Expertise's agreement with IKM Cleandrill on the upcoming drilling campaign for 2018, using the Transocean Arctic (TOA). As part of this service delivery, Well Expertise and Wellesley performed a verification of IKM Cleandrill to ensure that the Management System and organisation is suitable and in accordance with applicable regulations as well as meets Well Expertise and Wellesley expectations.

The verification was based on the following document:

- Appendix 1: Scope of verification
- Norsok S-006

A summary of IKM Cleandrill's responses to the verification scope is attached in Appendix 3.

1.1. Deviations

Verification performed according to plan, no deviations.

1.2. Warrant

Verification is warranted in the Well Expertise and Wellesley's Audit Plan for 2018. The audit plan is based on Well Expertise's service supplier criticality matrix which requires a verification of IKM Cleandrill's MRR services prior to start-up of operations.

1.3. Participants

Role	Name	Position	Company
Lead Auditor	Stig Seland	Chief Operations Manager	Well Expertise
QHSE Auditor	Silje Gjose	QHSE Manager	Well Expertise
QHSE Auditor	Trond Gravem	Sr HSE & Operations Advisor	Wellesley
Auditor	Lars Lilledal	Sr. Drilling Advisor	Wellesley
Auditee	Morten Christiansen	Operations Manager	IKM Cleandrill
Auditee	Haakon Stensland	QHSE Manager	IKM Cleandrill
Auditee	Harald Hufthammer	Technical Manager	IKM Cleandrill
Auditee	Kjetil Lavik	Asset Manager	IKM Cleandrill

1.4. Audit Process

- Notification – sent 7th March 2018
- Verification meeting – IKM Cleandrill's premises, Straume, Sotra. 15th March 2018. 10.00 – 15.30
- The scope was sent to IKM Cleandrill's 7th March (also included in this report – [Appendix 1](#))
- Draft report - issued 19th March, 2018
- Final Report – issued 23rd March, 2018

2.0 Findings

2.1. Categories of findings

Findings are categorised as:

- Non-conformance (NC)
- Observation (O)
- Improvement Suggestion (IMP)

Non-conformances are classified as:

- Major (MA)
- Significant (S)
- Minor (M)

2.2. Non-conformances

There were no non-conformances registered.

2.3. Observations

One observation was registered.

Table 1 Observations

Observation No.	Description	Ref.	Responsible
1	<i>IKM internal handover report, not signed off for Transocean Arctic "Raudåsen" 05.03.18. Awareness of filling in report and signing off.</i>	Discussion regarding job preparation/preservation	Morten Christiansen

2.4. Improvement proposals

Three improvement proposals were identified during the verification.

Table 2 Improvement Proposals

Improvement No.	Description	Ref.	Responsible
1	<i>Try to combine IKM's customer satisfaction sheet with KPI form from Wellesley.</i>	Discussion on QA/QC process	Morten Christiansen
2	<i>Equipment launching procedure should include that one should not stop at a depth where equipment can come in contact with pontoons of the rig and potentially get damaged. Include in procedure and pre-job briefing.</i>	Discussion on operational procedures	Morten Christiansen
3	<i>Update client input sheet with area specific information and planned mud info. Proactive involvement in ensuring value for operator in using MRR.</i>	Discussion on QA/QC process	Morten Christiansen

The reported non-conformances, observations or improvement proposals shall be followed up as soon as possible. All relevant actions and/or mitigating measures shall be identified (including action owner and due date) within 30 days after receipt of report.

2.5. Further actions

During the audit, Well Expertise and Wellesley saw that some documentation/actions were needed to get the total overview over IKM Cleandrill's deliveries:

- Screenshot of main processes
- NPT for the last year
- NPT Statistics for the workshop
- List of personnel planned to work for Wellesley on their drilling Campaign
- List of CV's for the Supervisors
- Drawings of installation details for MRR system which are offshore on TOA
- An example on HSE deviation report
- Working Environment mapping (WEAC chart) for the MRR unit (Any documentation available?)

Appendices

Appendix No.	Description
1	Verification Scope
2	Participants List
3	IKM Cleandrill's response to 'Scope of verification'

Appendix 1 – Verification Scope

Verification Scope

1. Short company information/presentation
 - a. Organisation chart, capacity and organisational risk assessment
 - b. Selection of personnel to support the Wellesley Drilling Campaign for 2018 (impact of current market conditions, existing portfolio, tenders and resources available)
2. Introduction to IKM Cleandrill's Management system:
 - a. Offshore safety statistics
 - b. Alerts from IKM Cleandrill on equipment issues
 - c. Non-conformance reporting and follow up
 - d. Competence matrix, training and experience of selected personnel
 - e. Incident / accident follow up system (Notification/Emergency Response)
 - f. Environmental procedures & monitoring
3. Contracts and procurement system incl. assessment and follow-up of subcontractors: If any?
4. Service Delivery process
 - a. Job preparation
 - i. Knowledge of rig and planned set up
 - ii. State of equipment already onboard
 - iii. Job specific risk assessments
 - b. Updates on equipment specs and improvements
 - c. From customer call off to load out, explain the QA/QC checks
5. Current IKM Cleandrill Performance
 - a. NPT associated with IKM Cleandrill equipment or personnel
 - b. HSE Initiatives and activities for offshore personnel
 - c. Equipment design changes potentially available for 2018 – new technology
 - d. Previous TOA experience incl. key issues and improvement items, rig up etc.
 - e. Job preparation
 - f. Use of offset information
 - g. Involvement with mud/rig company
6. Workshop-areas visit

Appendix 2 – Participants list

Meeting: Verification Meeting, IKM – Clean Drill

Location: IKM Office, Straume

Date: 15.03.18



Participants

Name	Role	Company	Mail
Haakon Stensland	HSEQ - Mgr	IKM Cleandril	haakon.stensland@ikm.no
Tord Graven	Sr Ops & HSE Advisor	WELLESLEY	tord.graven@wellesley.no
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KJETIL LAVIK	ASSET MANAGER	IKM CLEANDRILL	KJETIL.LAVIK@IKM.NO

Appendix 3 – IKM Cleandrill’s Response to Scope of Verification – Auditor Notes

Presentation of Cleandrill and Experience on TOA

Cleandrill experience on TOA since December 2017; impression is that rig crew is cooperative and provides good assistance. Access to power supply next to MRR station.

Current activities; 2 rigs (Songa Enabler og Deepsea Stavanger) and 4 wells. Transocean Arctic coming up this summer. Active BD work through down-period, several jobs coming in now. Gazprom is active and use IKM Cleandrill in northern projects (Sakhalin). Max limit is 6 systems to use towards customer.

Do not produce equipment in-house, IKM Clean Drill AS. When need for adaptations or new equipment IKM technology section establishes spec and contracts the work to suppliers.

IKM Cleandrill do not own the equipment they use, they lease it from another IKM unit, both however under same corporation and IKM Cleandrill is single supplier of the equipment.

4 X MRR 500 (500 m water depth) / 2 X MRR 300 (300 m water depth) pump capacity, 1 pump. 6 sets of MRR systems. Testing a MRR 006 system (the second 300 system - has not yet been in use). The MRR system uses power from the rig to avoid having a separate generator.

System currently on Arctic will be used on Wellesley campaign, and is preserved meanwhile not in use. Had some operational issues at start up AkerBP/Frosk, workshop/maintenance related – have made some organisational adaptations/reinforced procedure compliance as a result of this. No issues related to Raudåsen apart from Gumbo.

Organisation

Org. 13, one recently resigned and 1 long term leave. Hiring 7-8 new personnel. 8 administrative, 5 work shop.

Personnel situation; driver is to provide employees with rest, hours and correct compensation. This influences who is picked for jobs. All current employees have experience with Arctic (offshore team consists of 4 operators). IKM want continuity on personnel/jobs, also through summer period, schedules not yet set. New personnel will go into the mix. Wellesley requests that team going offshore is mix of new and experienced personnel.

Education program being developed for new personnel. Operators typically have background as electrician/mechanic, experience from competitors and on the job training for new personnel. Formalised classroom and e-learning programs currently being developed for new personnel.

Offshore personnel: 4 in total. 2 electricians and 2 mechanics (One on each shift).

Management System

MS system on platform “Input process”. Sharepoint used for project documents. Links from Input process to sharepoint. Most documents are included/attached to one process. Process risk assessments, Quality focus.

Risk management/register

Enterprise risk register worksheet recently established for IKM Cleandrill, disciplines, use Eco online chemical risk ass. Green chemicals used on equipment. Overall business risk. Department risks – yellow and red classified risks are included in enterprise risk register. Risk is updated annually.

HSE records/statistics

Injury statistics displayed, historical numbers back to 2015. 1 work related, no other injuries. Also tracking historical potential incidents. Send over report for potential injury.

HSE alert on equipment, showed example; cooler was frozen due to cold, heated up under tarpaulin, leak and gas HF (Hydrogen Fluoride). Registered as work related injury. HSE alert sent to all IKM companies through HSE forum, used where relevant.

Working environment/design

Unit produced according to requirements for temporary equipment, ref. Z-015, Design phase made according to relevant requirements NOROSK S-002/006. Noise measurements made, design process. Lock arrangements for unit, security against shock exposure. All 500 units are fully electrical driven.

Incident reporting

Monthly review of all open incidents/non-conformances, near miss/incidents. Processing. Look at closed incidents, reviewing actions and verifying close out.

Weaklink issue, 03.02.18, high potential. Investigation ongoing. Lessons learned. Copy of investigation report to be sent to Wellesley.

Frosk hendelse; earthfault 9U motor, project 10065. Registered in system.

Incident/accident follow up. 4 week automatic deadline for incidents reported.

Competence and experience

Onyx is used as system for registrations for competence.

Overview requirements defined / years of experience per position; excel sheet with tabs.

- Competency registrations courses/training – registration overview from Onix.
- Training conducted 2017.
- Scheduled training 2018.

Individual search functions per name/role. Alerts is sent out prior to course expiration; manual check by HR who alerts personnel.

Incident alerts and notification/ Emergency response

IKM group emergency response duty numbers: 47 97 72 00 (after hours) 24/7. 51 64 90 00 (daytime reception). Tested during Turøya – quickly resolved, no personnel involved, all operators counted for.

Environmental exposure

MS according to ISO 14001, not certified.

Have mapped environmental aspects, on pager. Waste generation in workshop most significant aspect. Recycling level above 75%. Annual drill for spills in work shop, environmental kit.

Minimal exposure to environment from equipment offshore. Unit has drip tray. Hydraulic oil in closed system, below level required for reporting. All chemicals being sent out offshore related to the MRR system are green.

Supplier follow up

Annual review on certain/critical suppliers, cycle 1-3 years acceptance review. Defined contractor responsible. Verification performed by Cleandrill of Technology in 2017.

Verification plan for 2018 established and illustrated.

Management review for 2017 conducted 07.03.18. Total review of suppliers, non-conformances.

HSE initiatives and activities

Last week, orientation about activity level, vacation arrangements, new hires etc. followed by social setting/dinner. HSE campaigns in workshop. Offshore the rig owner's systems/activities are followed. Not included in rig's maintenance meetings – not considered a requirement by IM Cleandrill.

HSE seminars 2 times a year and HSE forum for sharing of HSE info throughout the IKM group.

Service delivery process

Job preparations: Site Survey prior to job start up. Survey report gives indications/actions to system setup, number of hoses, length of cables and hoses. Survey report illustrated?

IKM internal handover report, not signed off for Transocean Arctic "Raudåsen" 05.03.18. Awareness of filling in report and signing off.

Work specific risk assessment

Invited to operator risk assessment (DWOP/HAZOP); typical risk of NPT is downtime on pump.

Pre-job meeting, job specific risk assessments related to WP/pre-job briefs. Presentation from pre-job meeting presented in meeting.

Lessons learned application

Lessons learned, i.e. Gumbo/Raudåsen. Mud spec – input from IKM on experiences with mud spec under specific well conditions/circumstances on location.

Current IKM Cleandrill performance

NPT on equipment/personnel: Frosk, 1 NPT incident in 2017; maintenance related issue?

QA/QC incident: Equipment launch procedure. Avoid stopping at rig's pontoons to prevent damage of equipment. Include in procedure and pre job briefing.

Transocean Arctic experience, improvement items

Ref. item above.

Use of offset information and involvement with mud/rig company

Two way; receive info from operator, provide info/experiences from previous operations.

Wellesley encouraged IKM CleanDrill to include their valuable experiences in end of well reports, provide input to DWOP/HAZOPs. Not only wrt system update, but overall service deliverables and value of MRR application

MRR System already on TOA will be left on the rig.