Verification Report

Compliance verification regarding Vår Energi Lifting policy and NORSOK standards – Deepsea YANTAI

Report from lifting verification Deepsea Yantai

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From: Helge Nordbø, Ole Lindbæck, Audun Vabø

Purpose: Lifting verification and compliance to regulations on DS Yantai

Location: Odfjell offices, Bergen and offshore DS Yantai

Dates: Onshore:5 and 21 of June. Offshore: 15-17 November

Classification: ***INTERNAL***

Revisions

Revision	Description	Date	Author	Checked	Approved
00	Initial Draft	06.09.23	Audun Vabø	N/A	N/A
01	Draft after offshore verification	16.11.23	Audun Vabø	Ole R. Lindbæck	N/A
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1. SUMMARY

Vår Energi performed an interview with Odfjell “technical and operational support” as well as initial documentation review, as part of the “see to” duty, with regards to lifting. This covers part one and two of the scope, as detailed in our “SoW and terms of reference, Crane & lifting verification Deepsea Yantai”

The audit team has found that there are non-conformities against requirements. These are described in chapter 3 of this report.

The findings are based on spot checks and do not cover all discrepancies between the Odfjell management system and the requirements. It remains full responsibility of Odfjell Drilling to perform their own verification and follow-up to ensure compliance with the contract and regulatory requirements for petroleum activities on the Norwegian Continental Shelf.

2. INTRODUCTION

2.1 Purpose

The purpose of the site visit is to assess the compliance of systems and practices regarding lifting equipment, including SDLA (Special Designed Lifting Accessories) and the knowledge of the requirements in the NORSOK R-003 and NORSOK R-002.

2.2 Limitations

N/A at this point.

2.3 Abbreviations

The following abbreviations are used in the report:

Table 1: abbreviations

Abbreviations	
WEA	**Working Environment Act**
PSA	**Petroleum Safety Authority**
SDLA	**Special Designed Lifting Accessories** (in the drilling and well area)
EoC	**Enterprise of Competence**
VE	**Vår Energi**
NCS	**Norwegian Continental Shelf**
OIM	**Offshore Installation Manager**
FR	**Facility Regulations**
AR	**Activity Regulations**
FWR	**Framework Regulations**
MR	**Management Regulations**
R-002	**NORSOK R-002 Lifting Equipment**
R-003	**NORSOK R-003 Safe use of lifting equip.**
Note:	For codes used to describe findings, see attached table from R-003 at end of report

2.4 Participants

The following personnel were involved in the verification.

Tabell 2: Audit Team and Participants

Name	Company	Position	E-mail
Audit Team			
Ole Lindbæck	VE	Principal Crane & Lifting Engineer (TA)	Ole.Lindbaeck@varenergi.no
Helge Nordbø	VE	Crane and lifting Specialist	Helge.Nordbo1@varenergi.no
Audun Vabø	VE	Drilling Lifting Specialist	Audun.Vabo@varenergi.no
Participants			
Torstein Brynestad	Odfjell	Discipline responsible Crane & Lifting operations	tobr@odfjelldrilling.com
Rune Aaserød	Odfjell	Dekksbas	
Ronny Svendsen	Odfjell	SSL/Operasjonelt ansvarlig dekk	

Morten Boge	Odfjell	TSL/Teknisk ansvarlig	
Bjørn A. Hansen	Odfjell	Subsea	
Rupert E. Nilsen	Odfjell	DSL / Operasjonelt ansvarlig Borring	

2.5 References and links

The following references and links are used in the document.

Table 3: References

Ref	Doc.no	Title	Rev.
/1/		Vår Energi Kran og Løfte Manual	-
/2/	NORSOK R-003	Sikker bruk av løfteutstyr ***(Safe use of lifting equipment)*** (including addendums and corrigendums 2018 and 2019)	2017
/3/	NORSOK R-002	Lifting equipment. (including addendums and corrigendums 2018 and 2019)	2017
/4/	-	Lov om arbeidsmiljø, arbeidstid og stillingsvern mv. (arbeidsmiljøloven) ***(Working environment act)***	2023, 1. April
/5/	-	Lov om petroleumsvirksomhet (petroleumsloven) **(Petroleum activities act)**	2021, 18. April
/6/	FOR-2010-02-12-158	Forskrift om helse, miljø og sikkerhet i petroleumsvirksomheten og på enkelte landanlegg (rammeforskriften) ***(Framework Regulations)***	2023, 1. July
/7/	FOR-2010-04-29-613	Forskrift om utføring av aktiviteter i petroleumsvirksomheten (aktivitetsforskriften) ***(Activity Regulations)***	2023, 01. January
/7/	FOR-2010-04-29-634	Forskrift om utforming og utrustning av innretninger med mer i petroleumsvirksomheten (innretningsforskriften) ***(Facilities Regulation)***	2023, 01. January
/8/	FOR-2010-04-29-611	Forskrift om styring og opplysningsplikt i petroleumsvirksomheten og på enkelte landanlegg (styringsforskriften) ***(Management Regulations)***	2023, 01. January

2.6 Method

The verification was done by interviews with relevant personnel, ref table 2, as well as spot check of relevant equipment and / or documentation, ref table 5.

Table 5: Spot check of documentation or equipment

Ref	Equipment	Visual spot check	Spot check of doc.
/I/	Diverter Running Tool serial no 20029315-31 N14EBDD	x	x
/II/	Riser Running Tool Serial no 38478451-1 N14JZ3E		x
/III/	Riser Running Tool Serial no 38096427-1 N141GBS2	x	x
/IV/	BX Elevator NL 44989 ROT04.2520-21		x
/V/	Drilling lifting lug 751735-1-4		x
/VI/	Lift subs serial nos OWS-LS-1724, SS1119488-1,		x
/VII/	Lifting Cap C7042613		x
/VIII/	Lifting Plug OWS-LP-57812		x
/IX/	Elevator Links 2 sets 965 and 1118		x
/X/	Master Bushing puller		x
/XI/	BX4-50 Elevator NL 0144622	X	X
/XII/	Master Bushing puller Nøsted SWL 2 t snr 27723-2	X	x
/XIII/	Lift subs serial nos OWS-LS-512155	X	x
/XIV/	Riser Running Tool Serial no. 41122428-1	x	x
/XV/	Starboard side offshore crane	x	x

2.6.1 Visual spot check

The visual spot check is limited to a short visual check of general condition and noting of any visible markings. It shall in no way be taken as an inspection of the condition of the equipment.

2.6.2 Spot check of documentation

The check of the documentation is performed on the documentation brought forward by the Odfjell team. More / other documentation may exist, but are not put forward, or otherwise brought to the team attention, unless so noted in the remarks on the equipment in question.

2.6.3 Organization summary:

The table below describes the audit team's understanding of the organization and roles, as related to NORSOK R-003, Ref. Table A.3 and B.1 in the standard. This is the reviewer's opinion on what roles each position should fulfill, given the tasks they perform, and shall not be used to evaluate how well these roles are known or even assigned to the personnel in these positions. Several of the positions onboard have two or more roles, and were interviewed in that regard, to each role.

Table 6: Roles and positions, as understood by reviewer.

Roles / positions	OIM	Technical Responsible	Operational Responsible	Lifting appliance operator	Signaler/ Banksman	Slinger
OIM						
Chief Mate			X			
Chief Engineer		X				
Crane operator				X		
Subsea operator						X
DSL			X			

3. FINDINGS

This chapter describes a summary of the answers and the findings as found in the interviews.

3.1 Summary

The overall impression is good. The verification team has been met in an open and friendly professional manner. The crew appears to be professional and proficient. The rig and housekeeping are in good order and in keeping with good seamanship. There are however some observations. The nature of the verification activity is to report such findings, see sections below;

3.2 Findings

The different types of findings have to be handled in the following manner:

NC: VE to accept proposed and implemented actions from Odfjell, before operations on VE behalf starts.

RC: VE to accept proposed and implemented actions from Odfjell. Timeline to be agreed upon between VE and Odfjell.

MO/CO: VE to receive information from Odfjell about any actions.

The main findings are numbered sequentially, the numbers with letters are specific findings or observations related to main findings.

Table 7 findings.

No	Finding	Reference	Code	Status
1	Several instances of equipment lacking documentation, both internal and rented. Missing ILO certification, missing EoC reports. In spite of these shortcomings the equipment was approved. Systematic measures to avoid re-occurrences to be described in management system/ bridging document with Vår Energi. See also sect 2-5 (NC 2 to NC 5) and sect 6 to 16 (RC 1 to RC 11)	FR, R-003 Annex E	NC 1	Open
2	Riser Running Tool, 2 off Serial nos. 20029315-31 and 38096427-1 DnV certificate states design temperature 0`C. This proved to be a case of the wrong certificate on file. An updated certificate was already received from DnV. The	FR, R-003 Annex E	NC 2	Closed

	updated certificate shows the correct design temperature at -20`C.			
3	Drilling Lifting lug 751735-1-4 missing all documentation	FR, R-003	NC 3	Open
4	Riser Running Tool, 2 off. One of the 2 tools checked during desktop review, as well as another tool, serial nos. 41122428-1 and 38096427-1, were found not to be within date, with regard to annual inspection by enterprise of competence. 4-yearly inspection was only documented on 1 tool. Acceptance from EoC to extent approval period to be obtained before use, and annual inspection to be carried out as soon as practical. Ensure both yearly and 4- yearly inspection is included in inspection program.	AR, R-003	NC 4	Open
5	BOP lifting cap 364-MX.001, Serial no. 1. SWL 60750kg. No documentation found onboard. To rectified before use.	FR, AR, R-002, R-003	NC 5	Open
6	The crane & lifting responsible has not carried out quality assurance steps against suppliers of rented SDLA tools, see finding 1.e to 1.i, and not assured that the rented equipment fulfill the requirements. Odfjell to revert with a plan to perform adequate quality assurance steps on all suppliers of lifting equipment, covering the condition of the equipment, the documentation, and the competency of the companies / personnel performing inspections on the equipment. Systematic measures to avoid re-occurrences to be described in management system/ bridging document with Vår Energi.	FR, MR, AR	RC 1	Open
7	Diverter handling tool missing ILO certificate	FR, R-003	RC 2	Open
8	Master Bushing puller missing ILO certificate	FR, R-003	RC 3	Open
9	Lift sub SS1119488-1 Load tested at insufficient load, not load tested in horizontal position	R-002	RC 4	Open
10	Lifting Sub OWS-LS-1724; no reference to R-002 in doc, missing ILO Cert	FR, R-002, R-003	RC 5	Open
11	Lifting Cap C7042613 missing ILO certificate /DVR	FR, R-003	RC 6	Open
12	Lifting plug OWS-LP-57812 missing ILO certificate /DVR	FR, R-003	RC 7	Open

13	Diverter handling tool, scope of annual inspection by PSW (report no 12238) not in accordance with scope detailed in NOV diverter manual 16565128-MAN. Correct scope to be determined, and rectified as necessary	AR, R-003	RC 8	Open
14	New Master Bushing puller Nøsted SWL 2 t snr 27723-2 user manual not available	AR, R-003	RC 9	Open
15	Lift subs serial no OWS-LS-512155, no documentation available, due to malfunction of OWS database. This is a recurring problem. ILO 152 cert, user manual to be available to end user onboard. To be rectified.	AR, R-003	RC 10	Open
16	It could not be established that a system ensuring that only lifting equipment with the correct documentation were taken into use, are in place. A system ensuring compliance to be established. Please also see sect. 1, (NC 1)	FR, AR, R-002, R-003	RC 11	Open
17	Plot plan according to NORSOK R-002, B.6, letter O, could not be presented. See also requirements for local procedures given in NORSOK R-003, annex C.	FR, AR, R-002, R-003	RC 12	Open
18	System for documenting equipment-specific training is currently transferring to new system, Raider. However, documentation on equipment specific training could not be demonstrated in Raider, older hardcopies partly covered the required training, but not completely.	AR, R-003	RC 13	Open
19	During visual spot check on deck, an offshore transport basket was chosen for check of inspection status, certificates etc. No documentation regarding lifting certification or inspection were found. A clear description of who is checking that load carriers are certified for offshore lifting and that structures that are to be lifted on board have a declaration for lifting was not presented. It seems that this essential control is not described in the management system for Odfjell Drilling. See NORSOK R-003 re. planning of lifting operations and NORSOK R-002, annex F regarding lifting documentation for transport unit for offshore use etc. See also NORSOK R-003, annex D regarding logistic planning.	FR, AR, R-002, R-003	MO 1	Open
20	The documentation required for lifting equipment is spread among several system and several departments. When we requested documentation, it was in some case difficult to find the documentation and in some cases, it could not be found. Systems in use are IFS, Equip, Onix, Tech top, DnV Veracity, NOV	AR, R-003	MO 2	Open

	bookshelf, OWS database, as well as local files in DSL computer, possibly others. This issue should be resolved to enable efficient control with lifting equipment on board. See NORSOK R-003, Annex E. See also sect. 21, (MO 3)			
21	A copy of the latest inspection report was found in the pedestal crane. However, it was not possible to determine if the findings were corrected or not. The crane operators should have readily available information on the condition of the crane. Information on the actual status of the cranes were found to be spread over multiple sources, IFS, email etc. A system to trace the actions on all findings in a timely and reliable manner should be implemented.	AR, R-003	MO 3	Open
22	It was noted that all user documentation is in the English language, whilst the crew are Norwegian. Norwegian should be used as far as possible	FWR §14	MO	Open
23	During field verification, a number of flat-braided wire slings with damage were found. It is the view of the verification team that placards with user instructions, including pre and after use checks, placed at the storage locations would be helpful reminders for the crew.	AR, R-003	CO	Closed
24	The storage areas for slings, chain blocks etc. were found to be tidy, clean and in good order.	AR, R-003	CO	Closed

Table 8 NORSOK R-003 codes used.

Table H.2 – Grading of faults and defects

Comment code	Designation	Status	Consequence with regard to use	Action
NC	NON-CONFORMITY	Minimum requirements to safety level are not fulfilled. The code indicates an assessment of where the overall technical condition of the equipment in terms of design, assembly, set-up and maintenance does not satisfy the statutory requirements.	Stop use immediately, completely or partially for certain operations.	**Rectification,** operational restriction or apply for exemption
RC	DIRECTIVE	Specific safety-critical requirements are not fulfilled.	Use can continue with special caution provided that **measures** described by the enterprise of competence are implemented.	**Rectification** in response to a directive shall begin immediately and be completed within the stated deadline. If the deadline cannot be adhered to, a new deadline shall be approved by the enterprise of competence, otherwise the RC is considered as NC.
MO	NOTE	Specified requirements are fulfilled, but the condition can develop negatively.	No immediate consequences.	Special monitoring and rectification/measures if or when necessary.
C	COMMENT	General comments, rectification completed or other factors that are highlighted.	None	Any actions depend on what the comments refer to.
OK	No comments.	(Only used when other codes are not stated)	None	None