



DROPPED OBJECT PREVENTION THROUGH REVIEW AND UPGRADING MANUFACTURING DOCUMENTS

DROPS FORUM ABERDEEN 2022.09.20

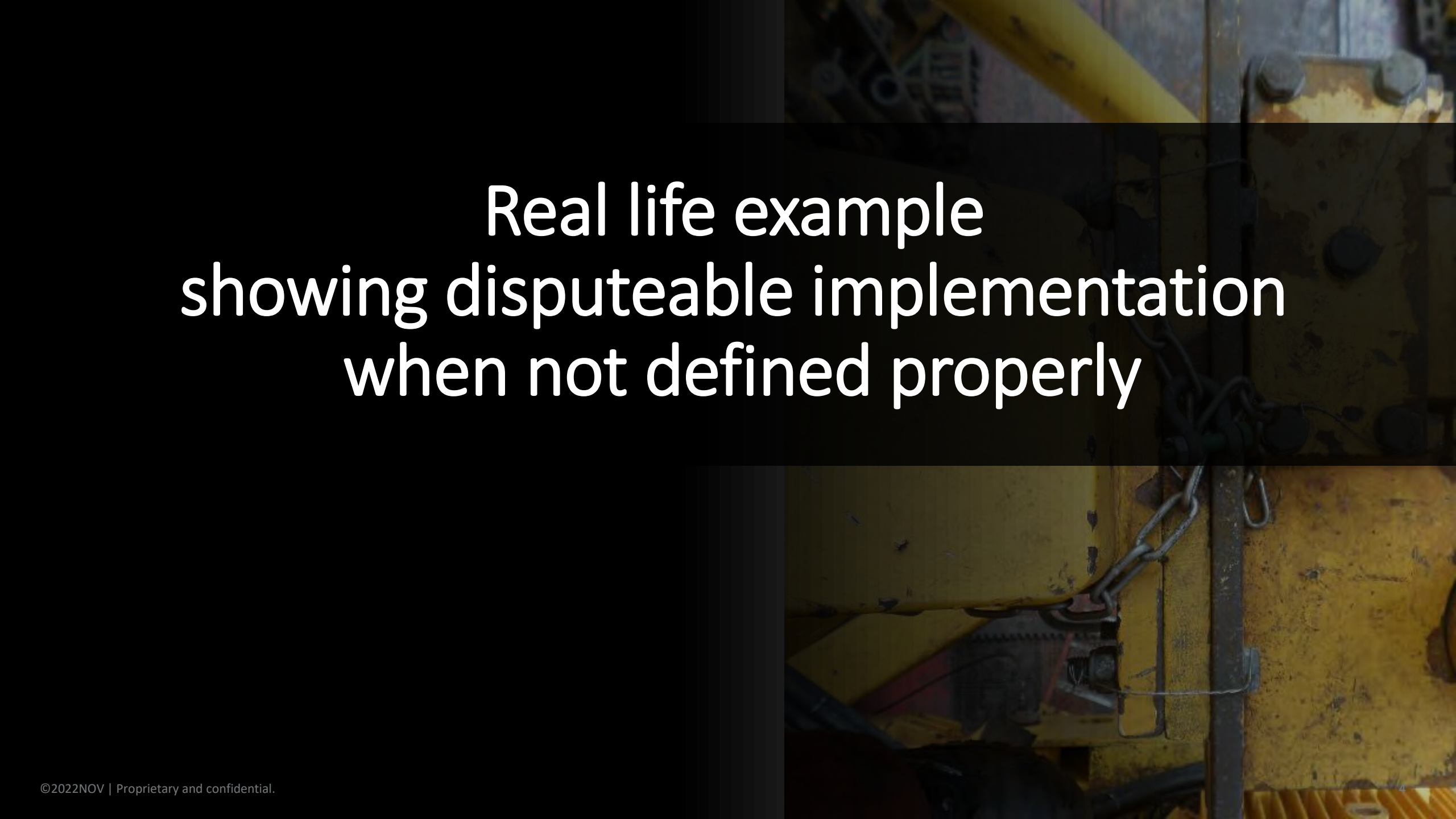
Index:

1. Real life example
2. NOV DROPPED OBJECT PREVENTION PROGRAM
Building Awareness
“DROPS” Guidelines
3. Review and upgrade of manufacturing documents
4. Customer incentives
5. Comments and Questions

DROPS mission statement

We are **working together** within our industry of Oil and Gas **to reduce** the number of incidents related to **dropped objects**.

The **key** success **factor** identified to fulfill our mission **is clear and open communication** between all involved.

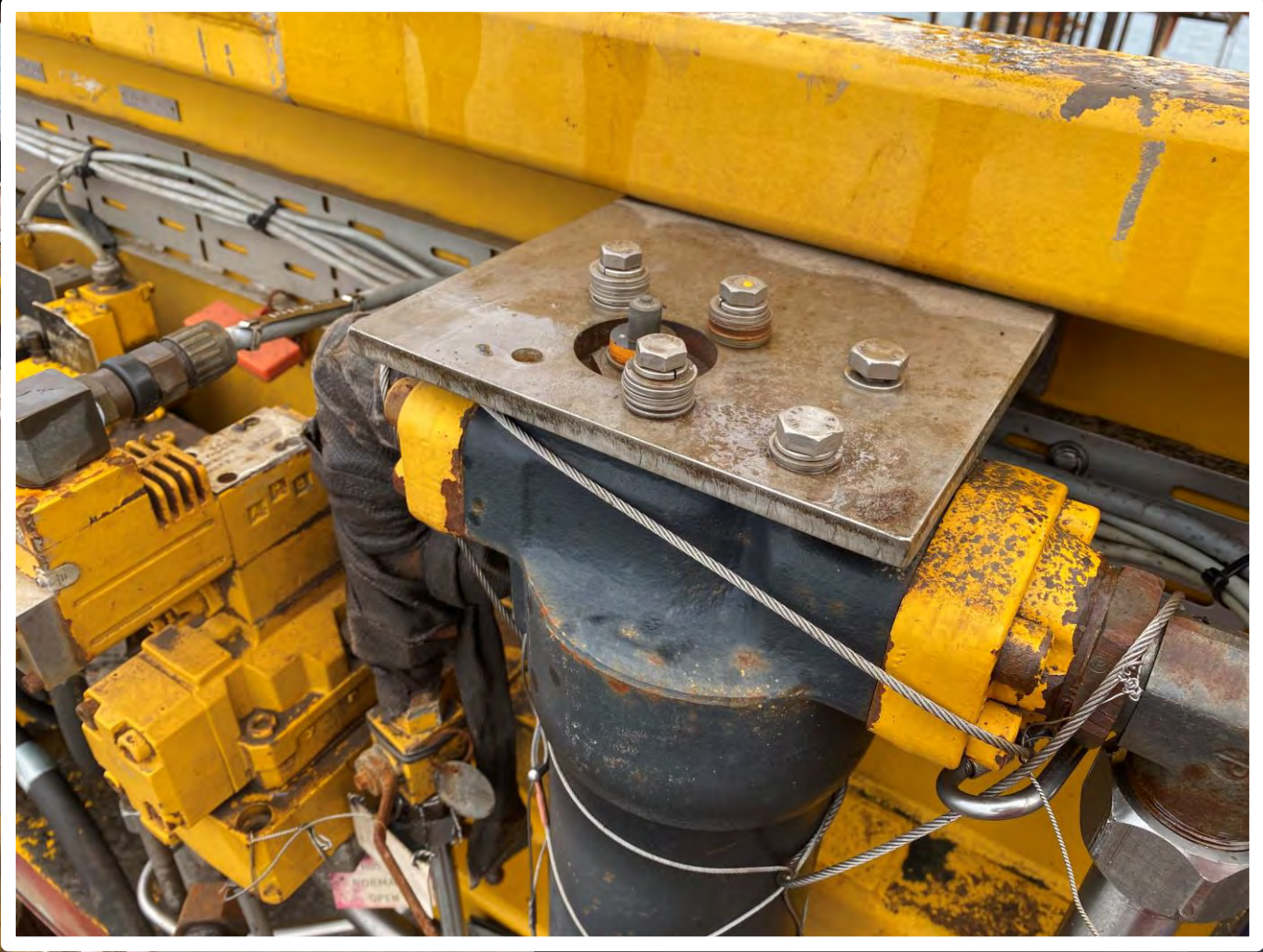


Real life example
showing disputeable implementation
when not defined properly



If securing methods are not properly defined on the manufacturing documents and in the user manual where applicable,

the effectiveness of the securing will be depending on the person applying and can be random!



SENCE OF SAFETY ?

1. stacked washers because of wrong bolt length
2. lanyard on the valve handle when you can use lockwire on the bolt and lever instead,
3. bolt on the right hand side on the filter is loose.
4. lockwasher on a washer does not add value.
5. net on filter housing is disputable because when it unscrews the system will start to leak followed by pressure drop and oil spraying. So a major issue occurs before the net safe guard kicks in.
6. Other?

FALSE SENCE OF SAFETY !!!



The background of the slide is a close-up photograph of industrial machinery. It features a prominent yellow horizontal beam on the left side. To the right, there is a vertical metal structure with several bolts and a metal chain or cable attached to it. The overall scene is dimly lit, with a dark, semi-transparent horizontal band across the middle where the text is located.

NOV DROPS INITIATIVE

BUILDING AWARENESS / PROGRAM INTRODUCTION

Target for all NOV engineering personnel

Duration 10 minutes.

Contains live links to NOV [drops pages](#) and drops related documents.



The course explains **NOV Dropped Object Prevention Program**.

BUILDING AWARENESS / TRAIN PERSONEL

Applicable for all engineers and resources involved in design, manufacturing, installation, inspection and maintenance of products.

Duration 20-30 minutes.



The course is intended to provide guidelines for securing methods as adopted within NOV for the purpose of mitigating the risk of dropped objects.

BUILDING AWARENESS / “DROPS” Guidelines


DESIGN GUIDELINE, D441000342-SPC-001 DROPS SECONDARY RETENTION AND PREVENTION OF DROPPED OBJECTS

- Rev 18 released 2021-12-23

The **DESIGN GUIDELINE** is a live document with the intent to be continuously updated with lessons learned and new technologies based on input from **All NOV**.

The Guide is available for:

- Registered NOV Customers
- Tenders / new contract



Review and upgrade of manufacturing documents



What we do now:

1. boost focus and awareness
2. detail design
3. complete Bill of Material
4. securing instructions
5. results

The background of the slide is a dark, low-key photograph of industrial machinery. It features a prominent vertical yellow pipe with a blue-painted section, surrounded by other yellow pipes and mechanical components. The lighting is dramatic, highlighting the textures and colors of the equipment against a dark background.

CUSTOMER ORIENTED INCENTIVES

FLYER

”NOV Global DROPS and its position in the Oil and Gas market” Describing NOV’s DROPS available services.

Surveys

Offer Rig equipment surveys analyzing equipment state, and compliance to defined requirements.

As a result, implement product upgrades and optimize inspection schemes.

The Flyer ref: [115752095](#)

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NOV's DROPS key activities:

- Development**
Participate in development of industry standards based on lessons learned and best practice.
- Consciousness**
Make people conscious of the risks and consequences when neglecting to follow the NOV guidelines and industry standards.
- Courses**
Create DROPS related courses and assign people that are in any manner part of the process of DROPS prevention or interaction with different parties.
- Training**
Develop and train NOV Employees, making it a second nature to integrate secondary retention and dropped object prevention in new and existing designs.
- Preventive Engineering**
Execute cross product group DROPS reviews of new designs, mitigation by preventive engineering.
- Procedures**
Create and maintain procedures describing how to follow up on DROPS issues, mitigation by reactive engineering.
- Surveys**
Offer Rig equipment surveys analyzing equipment state, and compliance to defined requirements. As a result, implement product upgrades and optimize inspection schemes.
- Develop and maintain DROPS related monthly updated metrics:**
 - Average number of days a DROPS issue is aging prior to closure.
 - Number (trends) of opened and closed cases.
 - Analyze DROPS issues by type, application and product.
- Awareness**
Increase DROPS awareness by creation and maintaining an internal NOV DROPS website publishing the above.

Please contact NOV Aftermarket at IRA-AM@nov.com with reference to Rijdoc document 115752095 for further assistance.

Document name: NOV Global DROPS and its position in the Oil and Gas market.
First issue date: October 14th, 2021
Revision: 01

Customer Metrics

We prepare and release a Quarterly DROPS report for NOV Customers:

CUSTOMER	DOCUMENT	LINK
MÆRSK	115402934	115402934
VALARIS	115438569	115438569
DIAMOND	115443983	115443983
TRANSOCEAN	115463736	115463736
SEADRILL	115467860	115467860

We are capable to prepare specific drops metrics on request.
Contact us for details



Quarterly update HSE related reported tickets

This report covers **Maersk** Customer specific HSE related tickets.
These customer specific metrics shall not be shared with any other customer then the listed one on the front sheet!



Quarterly update HSE related reported tickets

This report covers **VALARIS** customer specific HSE related tickets.
These customer specific metrics shall not be shared with any other customer then the listed one on the front sheet!



Quarterly update HSE related reported tickets

This report covers **DIAMOND** customer specific HSE related tickets.
These customer specific metrics shall not be shared with any other customer then the listed one on the front sheet!

REGULANT
ADDITIONAL CODE
SERIAL CODE
REMARKS
WARRANT NUMBER
DESCRIPTION
CLIENT PO NUMBER
CLIENT DOCUMENT NUMBER

REGULANT
ADDITIONAL CODE
SERIAL CODE
REMARKS
WARRANT NUMBER
DESCRIPTION
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REGULANT
ADDITIONAL CODE
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REMARKS
WARRANT NUMBER
DESCRIPTION
CLIENT PO NUMBER
CLIENT DOCUMENT NUMBER



Quarterly update HSE related reported tickets

This report covers **Transocean** Customer specific HSE related tickets.
These customer specific metrics shall not be shared with any other customer then the listed one on the front sheet!



Quarterly update HSE related reported tickets

This report covers **Seadrill** Customer specific HSE related tickets.
These customer specific metrics shall not be shared with any other customer then the listed one on the front sheet!

2nd Quarter, 2021.

REGULANT
ADDITIONAL CODE
SERIAL CODE
REMARKS
WARRANT NUMBER
DESCRIPTION
CLIENT PO NUMBER
CLIENT DOCUMENT NUMBER

REGULANT	REFERENCE	REFERENCE DESCRIPTION
ADDITIONAL CODE	063	Engineering report
SERIAL CODE		
REMARKS	<p>This document contains proprietary and confidential information which belongs to National Oilwell Varco. It is intended for internal purposes only and is not to be distributed outside of National Oilwell Varco. Any use of this information for other than the intended purpose is strictly prohibited. This document is to be reviewed by National Oilwell Varco prior to release and is subject to the terms and conditions of the applicable license agreement.</p>	
WARRANT NUMBER	<p>NOV DROPS contact: Aron Krizan Aron.Krizan@nov.com Dr. Engineering Advisor & Global DROPS</p>	
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CLIENT PO NUMBER	DOCUMENT NUMBER	REV
	115467860	02

11

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