

# MONITORING CHANGE AND EFFECTIVENESS

TOM BURKE

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PRESIDENT AND CEO  
ROWAN COMPANIES



# Forward-Looking Statements

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Statements herein that are not historical facts are forward looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including, without limitation, statements as to the expectations, beliefs and future expected business, financial and operating performance and prospects of the Company and our joint venture with Saudi Aramco. These forward-looking statements are based on our current expectations and are subject to numerous risks, assumptions, trends and uncertainties that could cause actual results to differ materially from those indicated by the forward-looking statements.

Among the factors that could cause actual results to differ materially include: oil and natural gas prices and the impact of the economic climate; changes in the offshore drilling market, including fluctuations in supply and demand; variable levels of drilling activity and expenditures in the energy industry; changes in day rates; ability to secure future drilling contracts; cancellation, early termination or renegotiation by our customers of drilling contracts; customer credit and risk of customer bankruptcy; risks associated with fixed cost drilling operations; unplanned downtime; risks related to our joint venture with Saudi Aramco; cost overruns or delays in transportation of drilling units; cost overruns or delays in maintenance, upgrade, repairs, or other rig projects; operating hazards and equipment failure; risks of collision and damage; casualty losses and limitations on insurance coverage; weather conditions in the Company's operating areas; increasing costs of compliance with regulations; changes in tax laws and interpretations by taxing authorities; hostilities, terrorism, and piracy in our areas of operations that may result in loss or seizure of assets or interruption of operations; impairments; a cyber incident which impairs our ability to conduct operations; the outcome of disputes, including tax disputes and legal proceedings; and other risks disclosed in the Company's filings with the U.S. Securities and Exchange Commission.

Each forward-looking statement speaks only as of the date hereof, and the Company expressly disclaims any obligation to update or revise any forward-looking statements, except as required by law.

# Agenda

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## Industry Dynamics

Brief Rowan Overview

Why Monitoring Change and Effectiveness is Important

Elements of How Rowan Monitors Change and Effectiveness

Some Example of Improving Monitoring Change

Rowan DROPs Journey

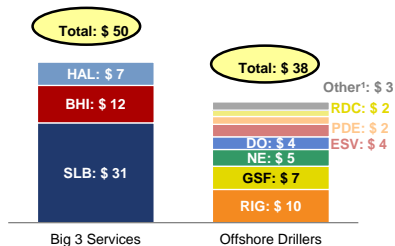
# We are in a challenging business and the last several years have been hard on offshore drillers...



## Market Capitalization (\$ BN) Big 3 Services vs Selected Offshore Drillers (All public at time)

15 Years Ago

Big 3 = 1.3x size of public offshore drillers



Source: Company disclosures, Wall Street Research, S&P Capital IQ

Note: "15 Years Ago" as of second quarter 2002, "10 Years Ago" as of second quarter 2007.

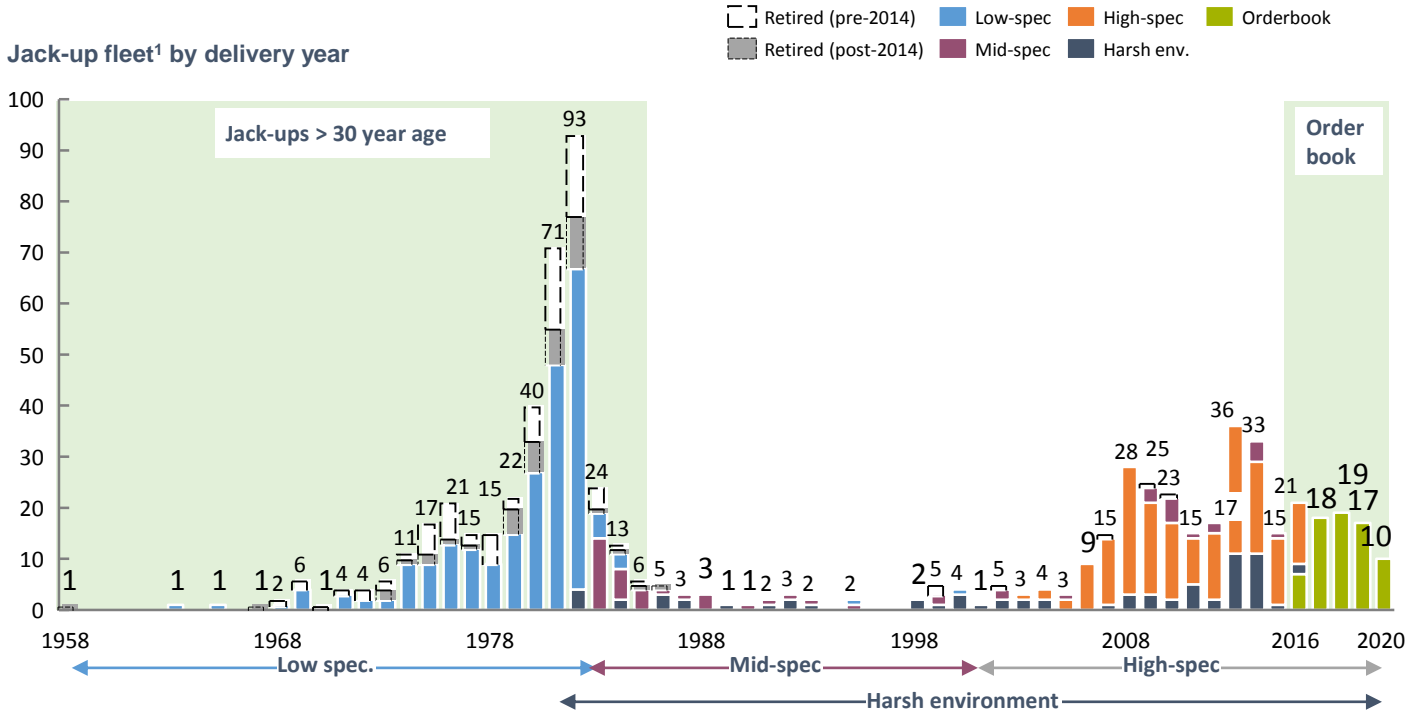
<sup>1</sup> Other includes: Fred Olsen Energy, Atwood, Ocean Rig, Awilco Offshore, Chiles Offshore, Smedvig and Odfjell Drilling.

<sup>2</sup> Other includes: Odfjell Drilling, Songa Offshore, Pacific Drilling, Ocean Rig, Seadrill and Paragon Offshore.

<sup>3</sup> Other includes: Odfjell Drilling, Seadrill, Borr Drilling, Pacific Drilling, Fred Olsen Energy and Vantage Drilling.



# A sea of change in our business... a look back



Despite numerous retirements post-2014, 261 jackups are still >30 years old: (49% of the existing fleet of 529)

<sup>1</sup> Retirements only include those that are retired from 2000 onwards, as of September 26, 2016

# Agenda

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Industry Dynamics

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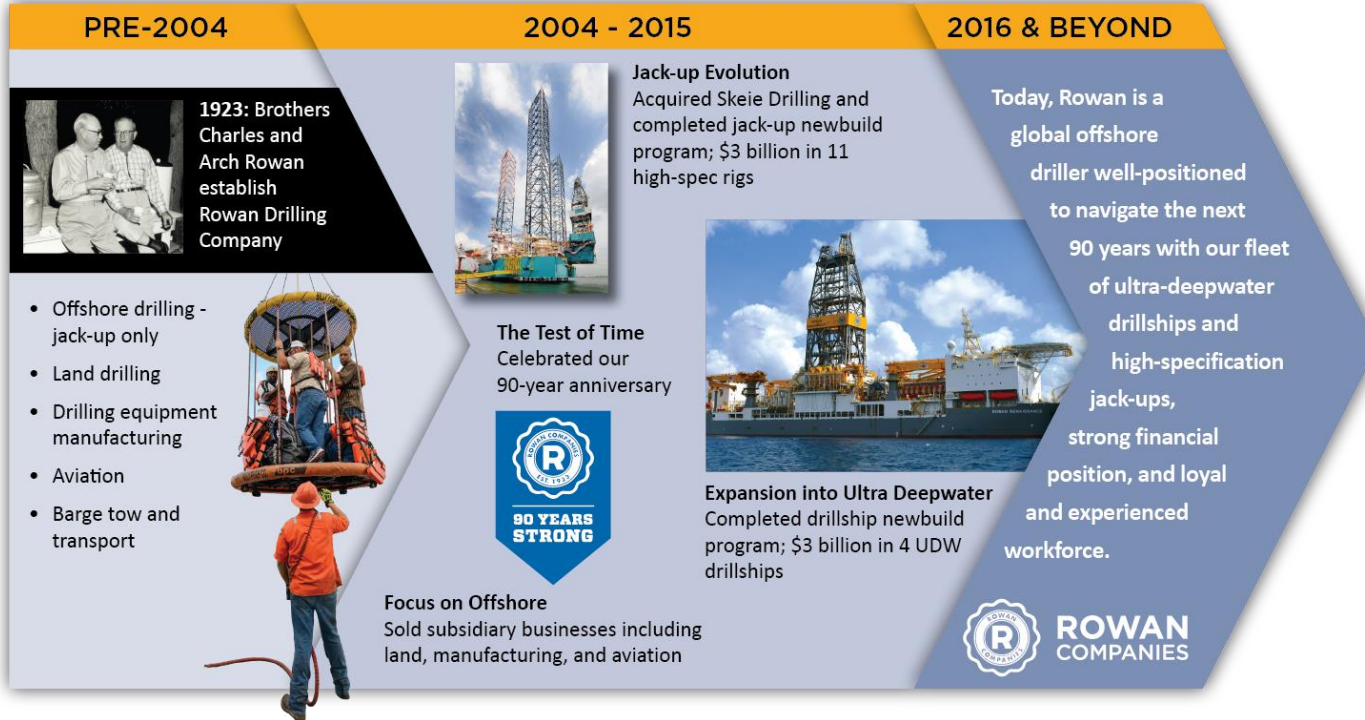
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# Rowan's Evolution...





Partnering with Saudi Aramco, the **largest customer** for jack-ups in the world, in the **largest region** for jack-ups in the world.

**CONTRIBUTED**

**High utilization** for contributed assets for the **remainder of their useful lives** – seven rigs contributed to the JV, five from Rowan and two from Saudi Aramco.



**LEASED / BAREBOAT CHARTER**

Opportunity to **contract additional assets** to ARO Drilling through agreed leasing structure. By end of year 2018, contracted nine rigs to Saudi Aramco through bare boat charter.



**NEW BUILD**

**Strong visible organic growth** – expect twenty newbuilds against long-term contracts. Expected returns are commensurate to Rowan’s target for similar risk profile opportunities. Newbuild program projected to be **self-funding** at the ARO Drilling level.



ARO Drilling expected to generate substantial **long term cash flow.**







**ROWAN  
COMPANIES**

EFFICIENT.



Combination of Leading Offshore Drillers Creates Shareholder Value

October 2018

# Agenda

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**Why Monitoring Change and Effectiveness is Important**

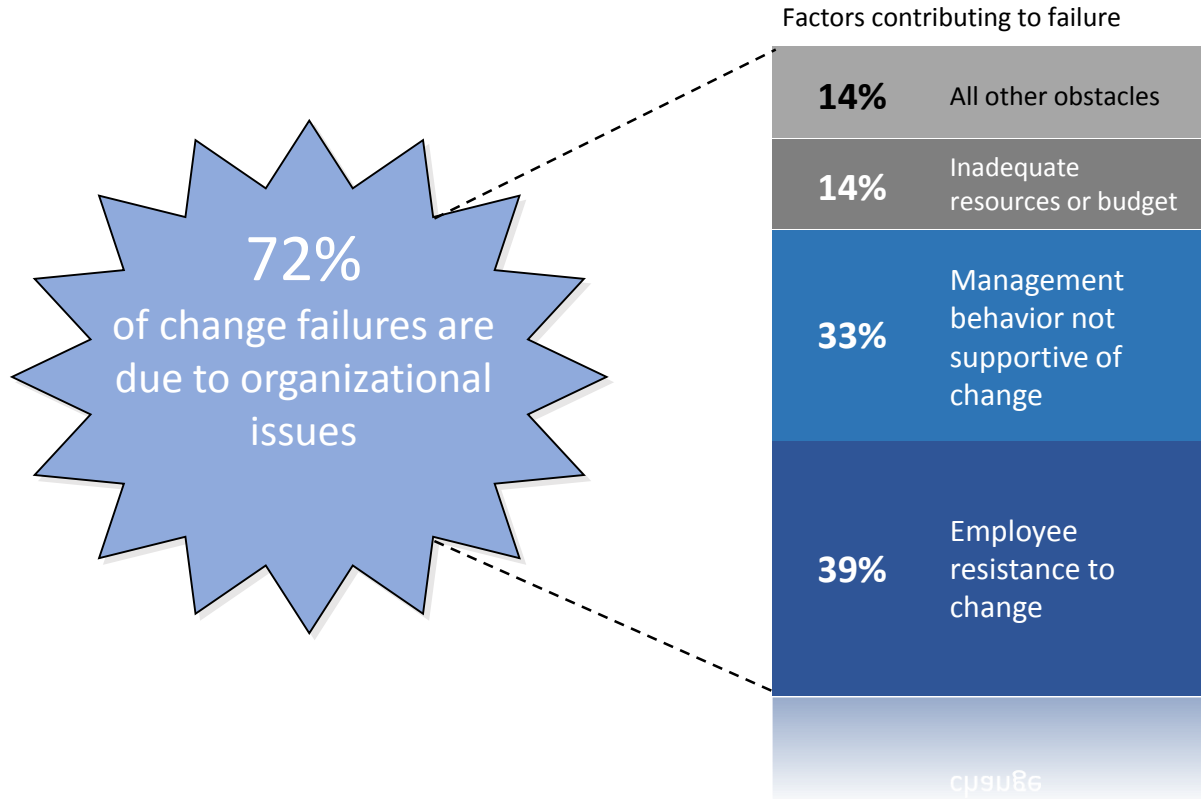
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# Change is REALLY hard - 70% of All Major Changes Fail





# Why Monitoring Change and Effectiveness is Important

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*Reason 1 - Change is hard; most changes fail*

*Reason 2 – Our business is hard... we should have a strong sense of chronic unease / skepticism*

*"We do it all the time" or "It never works"*

*If you can't prove it, it's probably not happening*

*Reason 3 – Our operations ability to absorb and implement change is significantly slower than our ability to think up new ideas*

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# Monitoring Business Performance

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- Deep understanding of business performance is required to drive improvement
- Our approach to achieve this is to:
  - Make “it” important - drive it from the top
  - Give “it” visibility - easy to find and understand
  - Make “it” automatic – collecting and reporting
  - Improve “it” – continuously prototype ways to improve metrics
  - Empower people and create ownership - who is responsible and accountable



# Performance Monitoring Tactics and Tools

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Tactics	Tools
Control of Work	eCOW, RSOPs, JRAs, ORAs
Verification	Audits, Rig Condition Surveys, Marine Integrity Inspections, OIM Rig Site Review, Worksite Leadership, Non-Conformance Tracking
Incident Reporting	Near Hits, Injuries, Spills, Dropped Objects, Downtime, Property Damage
Management of Change	MoC workflows
Learning Culture	Root Cause Investigations, Bulletins & Alerts, Safety Share Calls and Maintenance Share Calls
Key Performance Indicators (KPIs)	Business analytics



# Audits - You get what you inspect...

- Rig Condition Survey (2012 #127)
  - Dedicated team;
  - Audit close on rig with rig team; detailed report
- Management System Audit (2013 # 61)
  - Lead reports to Internal Audit; use local resources
  - Audit close on rig with rig team; detailed report
- DROPS (2017 # 25)
  - Dedicated team
  - Audit close on rig with rig team; detailed report
- Cyber Security (2018 # 2)
  - Lead from Internal Audit; detailed report planned

Tricky balance between strong reporting and keeping rig management engaged / maintaining trust

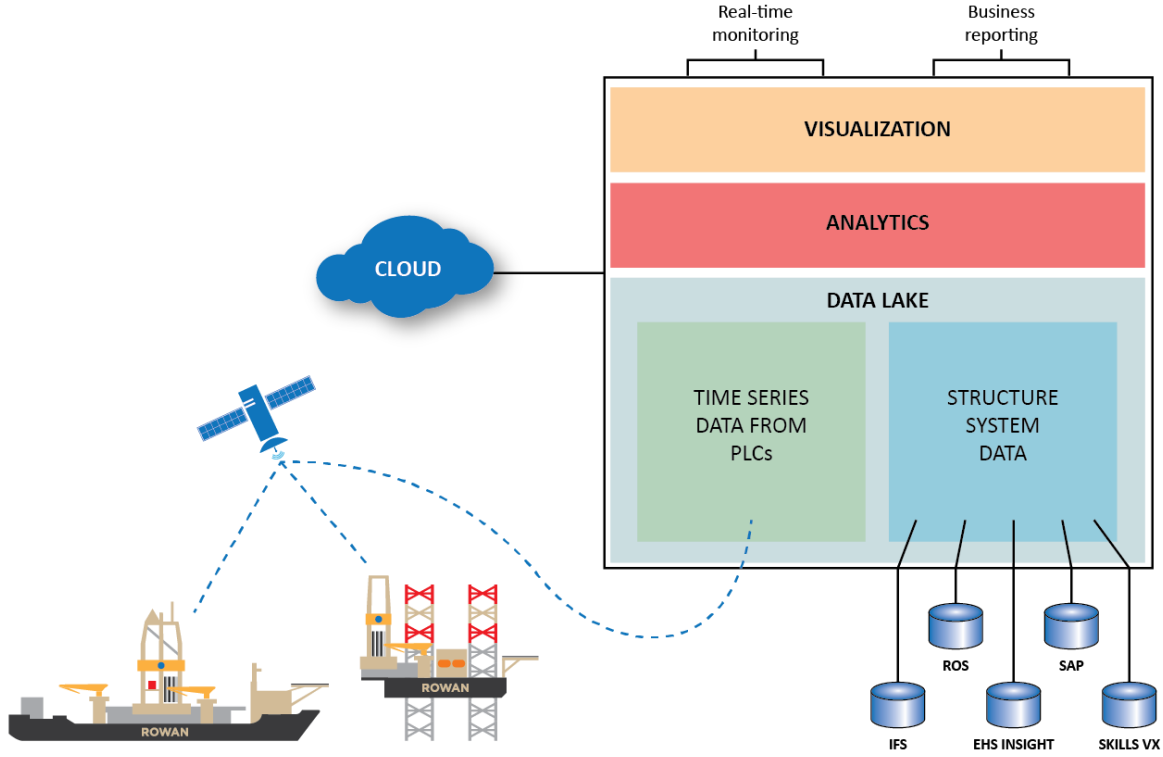
Need a “strong personality” to lead the audit program

“Nothing is better than a good audit program to drive learnings across the whole company”



















# Monitoring Infrastructure



# Revolution in Tools to Build Insights - PowerBI



 <p>Engineering AUG 23, 2018</p>	 <p>Finance SEP 25, 2018</p>	 <p>Human Resources OCT 4, 2018</p>	 <p>Information Technology OCT 30, 2018</p>	 <p>Internal Audit OCT 23, 2018</p>
 <p>Maintenance and Techni... NOV 2, 2018</p>	 <p>Marine Compliance OCT 16, 2018</p>	 <p>Operations and Perform... NOV 1, 2018</p>	 <p>QHSE NOV 2, 2018</p>	 <p>Rig Leaders Portal OCT 19, 2018</p>
 <p>Supply Chain Manageme... JUL 24, 2018</p>	 <p>Tech Services NOV 6, 2018</p>	 <p>Training and Competence OCT 19, 2018</p>	 <p>Get more apps from Microsoft AppSource</p>	

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**Some Example of Improving Monitoring Change**

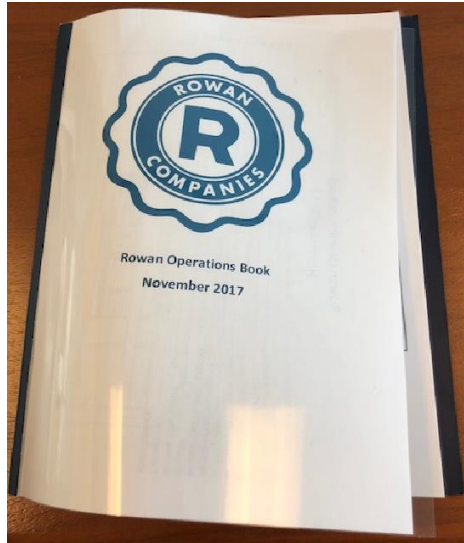
Monthly reports to BI

Paper Permits to eCoW

HSE Metrics Improvement

Rowan DROPs Journey

# Example 1: Monthly Operations Report to PowerBI



## Monthly Operations Report

- Operating KPIs
- Focusing on issues and how to improve

## However:

- Manually manipulated reports
- Dated information from which to make decisions
- Limited visibility across organization



# Example 1: Monthly Operations Report to PowerBI

## Rig Leaders Dashboard (RLD)

05-Nov-18

DRAFT

Multiple Rigs (30)  
Rigs You Can See  
**38 - Gilbert Rowe**  
Rigs You Are Viewing

Company	Region Selection	Rig Selection
All	All	38 - Gilbert Rowe

Safety KPIs, Last 7 Days		
0	0	0
Spills to Water	Work Related Injury	Drops, HIPO
0	0	0
Near Hit, HIPO	Property Damage, HIPO	Well Control

Engineering & Quality KPIs		
0/1	0/5	0/9
OD ETRs	OD CNCs	OD CAPAs
1/2	XX/XXX	
*Total RSRs	*Aged MSIRs	

Maintenance KPIs		
XX %	100 %	0/0
On-time Barrier WD %	On-time High WD %	OD High WO, ORA-M Issue
0/50	0/1	0
OD RCS Findings	*Open Aged MSHelp	*Total ORA-Ms

Training KPIs, Onboard Rig		
88 %	88 %	100 %
WCT Compliant %	WCQ Compliant %	OIT Compliant %
100 %		
Crane Compliant %		

Marine KPIs		
0	0	0
Certificate, Expired	Certificate, Expires Soon	Drills Past Due

Operations		
0/1	0/3	0/0
Expired ORAs	Open Aged Incidents	OD MSA Findings

Finance		
-4 %	-21 %	118 %
Revenue YTD Var	Expense YTD Var	CapEx Fcst YTD Var
7		
Aged Receivables		

Supply Chain		
-0.0 %	4	-100 %
Inventory Variance	Aging Transport Orders	Routine R/BM Variance

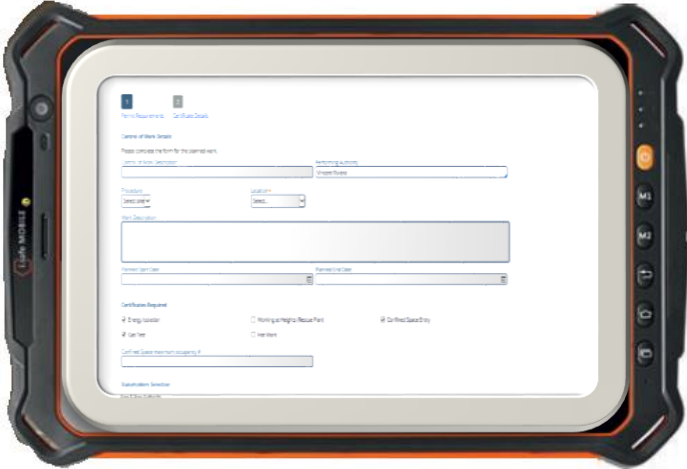
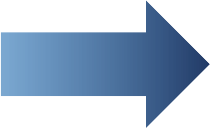
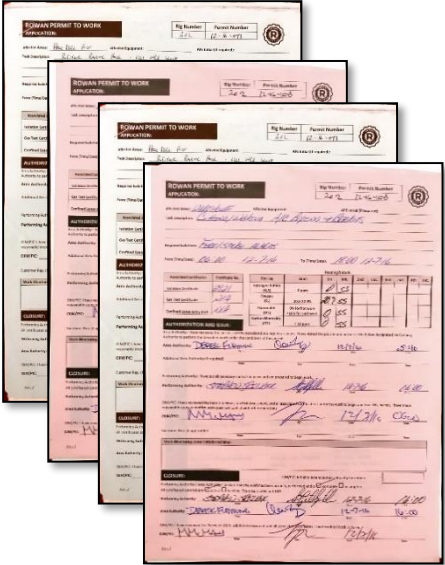
HR		
0	11 Days Delayed	93/98
POB Misalignment	Avg. SAP Changes	HC Actual/Forecast

\* indicates that the individual KPI has no impact on Functional KPI (e.g., traffic light color).

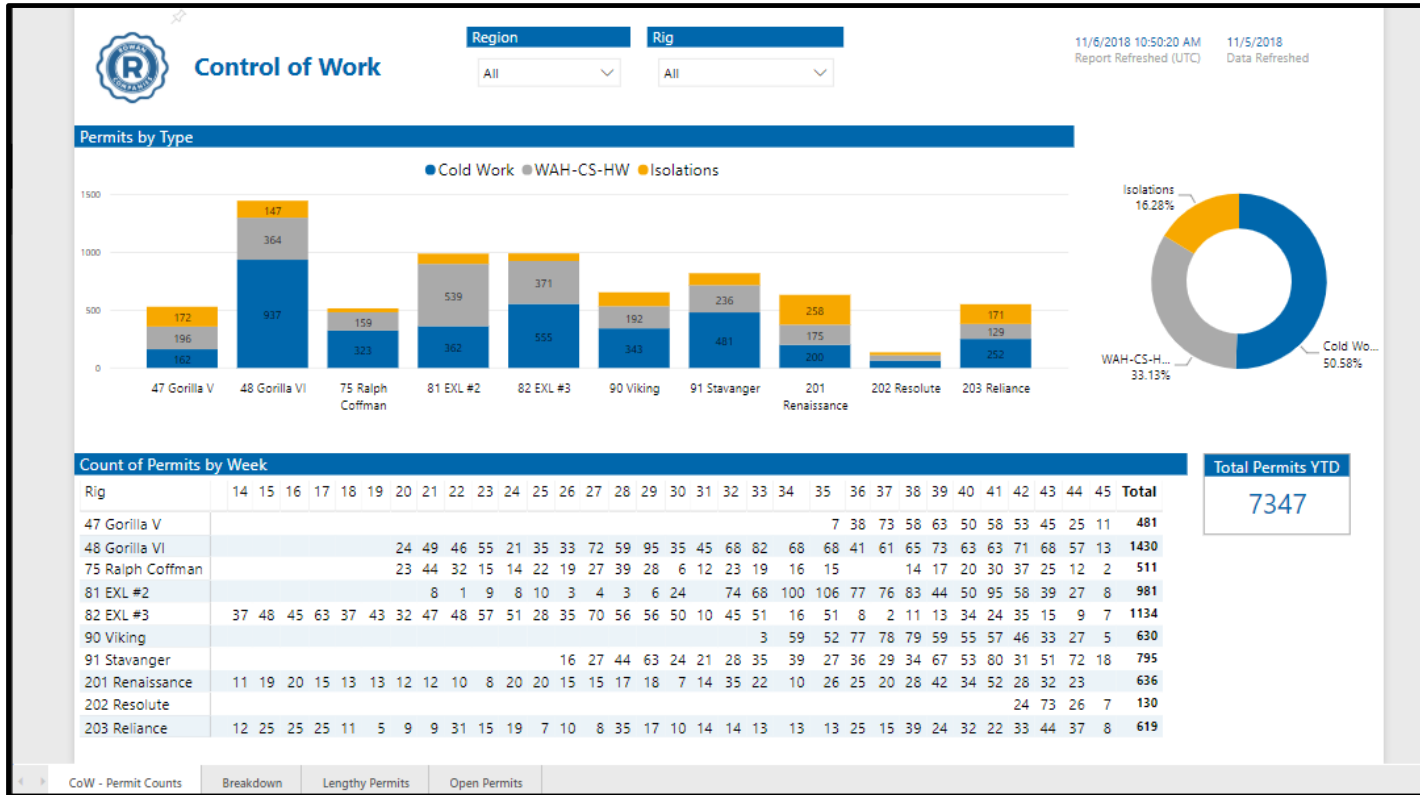
<a href="#">Dashboard</a>	<a href="#">Regional Breakdown</a>	<a href="#">KPI Definitions</a>	<a href="#">Safety</a>	<a href="#">Eng. &amp; Quality</a>	<a href="#">Maintenance</a>	<a href="#">Training</a>	<a href="#">Marine</a>	<a href="#">Operations</a>	<a href="#">Finance</a>	<a href="#">Supply Chain</a>	<a href="#">HR</a>
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# Example 2: Control of Work (Permits): Paper to Electronic



# Example 2: eCoW Monitoring Dashboards



CoW - Permit Counts    Breakdown    Lengthy Permits    Open Permits



# Example 3: Improvements In HSE Metrics & KPIs

The screenshot shows the EHS Insight software interface. At the top, there are four main navigation buttons: 'REPORT AN INCIDENT' (with a warning triangle icon), 'PROACTIVE/PREVENTIVE MEASURE' (with a person icon), 'ENVIRONMENTAL' (with a bird icon), and 'AUDIT/INSPECTION' (with a checkmark icon). Below these, there is a 'New Form' section with a list of incident types: Injury/Illness (1813), Environmental (1496), Near Hit/Dropped Obj, Hazmat, Property Damage, Hand Control, DP Incident, Vehicle, and Security Breach. A 'Completed Form' section shows an 'Incident Log' table with columns for Month, Year, Type, Risk, Severity, Location, Date, Status, and Action. The table contains several rows of incident data.

The screenshot shows a detailed HSE dashboard. It includes a 'Near Hit Detail' section with a bar chart showing 'Near Hits by Potential' (Low, Medium, High, Unclassified) over time. A 'Near Hit Summary' table lists incidents with columns for Form Number, Risk, Form Date, Potential, and Short Description. A 'Drops Detail' section shows a bar chart for 'Drops by Potential Severity' (Low, Medium, High, Unclassified) over time. A 'Location of Near Hits' table lists various locations like Main Deck, Rig Floor, and Accommodations. A 'Location of Drops' table lists locations like Deck, Main Deck, and Rig Floor. A 'Drops Summary' table lists incidents with columns for Form Number, Risk, Form Date, Potential, and Short Description. The dashboard also includes filters for Region and Risk, and a 'Data Refresh Time' indicator.

## PowerBI HSE Dashboards

- Turns data into information
- Multiple leading and lagging KPIs tracked from a single HSE Report
- Dashboards easily improved based on organizational needs
- Reports created and owned by process owners

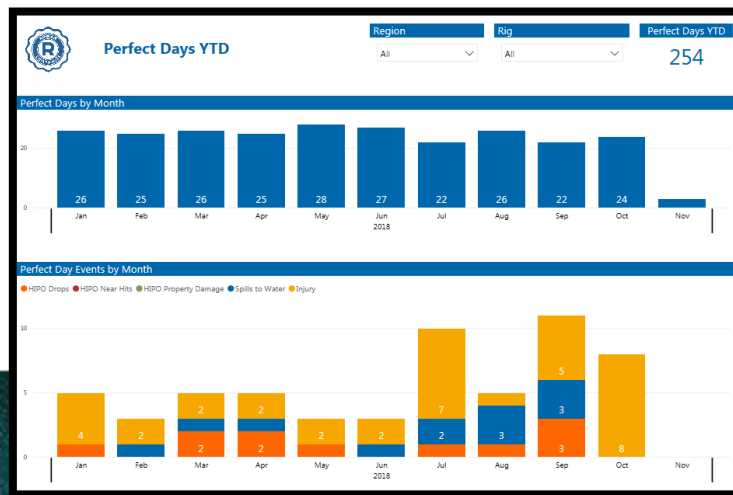




# Example 3: Perfect Day

## Perfect Day Description

- No hurts
- No High Potential Incidents
- No harm to the environment



- Simple to measure
- Easy to understand
- Every person contributes
- Each day is a new day

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**Rowan DROPs Journey**

# DROPS Journey

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# DROPS Journey



## Identify

- Our policies and procedures were confusing
- Our crews relied heavily on 3<sup>rd</sup> party personnel
- 3<sup>rd</sup> party service providers were inconsistent
- Insufficient understanding and ownership
- Majority of HiPo Incidents are dropped objects

# DROPS Journey

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- Lack of Ownership of the DROPs program
- Ineffective Tools for Inspections
- Insufficient Training for Rowan Employees
- Frequency of DROPs inspections
- Control of Tools
- Control of Work
- Potential Drops Object List (multiple issues)

## Issues With Our Current DROPS Program (1)

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- **Lack of Ownership of the DROPS Program.** Across the fleet, there is an absence of rig leadership involved in ensuring the quality of the DROPS inspections; currently, the emphasis is on ensuring that an inspection was completed, and not whether it was completed effectively. This applies to the quality of annual DROPS inspections by 3<sup>rd</sup> party inspection companies as well as planned DROPS inspections conducted by Rowan crew members.
- **Ineffective Tools for Inspections.** During the last year, Rowan worked with 3<sup>rd</sup> parties to develop picture books for rig crews to use while conducting DROPS inspections. However, these picture books had a host of quality control issues ranging from misaligned inspection frequencies to pictures of equipment from other rigs. Additionally, the picture books were static and only updated on an annual basis. Finally, the picture books did not allow crew members to record their findings on the hard copies of the picture books and therefore made verification of inspections by rig leadership extremely difficult.
- **Insufficient Training of Rowan employees.** Crew members are relying on best practices learned from informal on-the-job training. Other than the online DROPS-e training requirement, Rowan personnel receive no formal training on DROPS during the course of their career. As a company, we have not set a clear standard for DROPS prevention.
- **Frequency of DROPS inspections.** Every area of the rig is inspected on the same 90-day rotation. By dividing up the entire rig on a uniform inspection period, Rowan's inspections are not targeting the greatest potential dropped object threats to the health and safety of our rig crews.
- **Control of Tools.** Despite specific work-at-height toolkits and Rowan policies requiring tools to be logged in and out, missing tools, tools left at height, and dropped tools from height are still regular occurrences across the Rowan fleet.
- **Control of Work.** The majority of Rowan's DROPS incidents center around routine tasks. Whether a crew member is conducting maintenance on the top drive or executing a lift, rig crews are failing to identify the relevant DROPS hazards before, during, and after completing their work.



## Issues With Our Current DROPS Program (2)

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### DROPs System - Potential DROPs Object List

- Third party vendors control our knowledge base of DROPs objects (object list)
- Hierarchy of objects and descriptions differ significantly between vendors and between rigs
- Changing DROPs object in third party systems is difficult
- Rowan inspections are not documented against DROPs object list in third party inspections

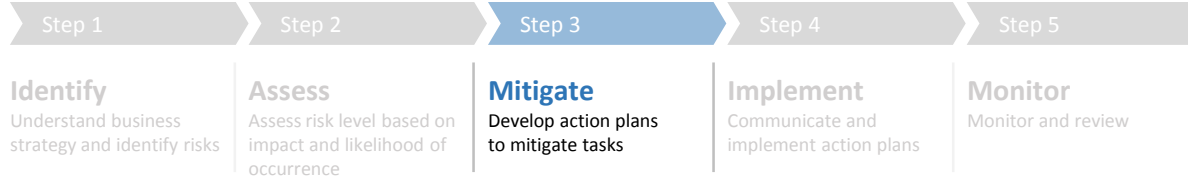
# DROPS Journey



## Assess

- Leadership made DROPS a priority
- Established bi-monthly Executive reviews
- Evaluated available data to understand highest risk areas
- Investigated quality of 3<sup>rd</sup> party services and availability of data

# DROPS Journey



## Mitigate

- Joined North American DROPS Steering Committee
- Adopted DROPS Recommended Practice
- Simplified Rowan's DROPS Policies and Procedures
- Established a Rowan DROPS Standard
- Applied a risk based approach to inspections

Uncontrolled When Printed		
RMS Drilling Operations	Standard	RMS-DOP-801
	Revised Date	1 Oct 2018
DROPS Standard	Revision #	10
	Originator	Jack Howard
	Approved	Jack Whitton

### 1.0 PURPOSE

- 1.1 The purpose of this document is to provide a company standard on retention and securing of equipment and objects at height.

### 2.0 SCOPE

- 2.1 This standard contains guidance for understanding and mitigating the potential of dropped objects.

### 3.0 RESPONSIBILITY

- 3.1 It is the responsibility of anyone that will be ordering, managing, installing, or working in an area where there is a potential for dropped objects to adhere to this standard.

### 4.0 STANDARD

#### 4.1 General

##### 4.1.1 Dropped Object Likelihood

Potential dropped objects (PDO) are risk assessed to determine what controls are needed to eliminate or reduce the risk as low as reasonably practicable (ALARP). See RMS-DOP-800 Dropped Objects Policy, section 6.2 for the definition of PDO.

Different areas of the rig have different likelihoods of objects falling. Areas of the rig have been defined by the likelihood of objects falling from that area (See Table 4.1.1). The likelihood is based on the operations that are performed in that area and the past history of dropped objects from that area. See section 4.1.4 for rig areas and the color coding associated with Table 4.1.1 - Drops Likelihood.

Excluded Areas	Low Likelihood	Medium Likelihood	High Likelihood
Areas not assessed or inspected for DROPS. This includes areas not normally manned or exposed to high severity dropped objects. This includes areas such as tanks, voids, the bottom and sides of the hull, legs below the hull, and spud cans. Also includes the quarters interior.	Areas that do not have frequent operations with moving equipment or regular substantial vibration. These areas include P-tank rooms and Mechanical/Electrical rooms.	Areas that have frequent operations with moving equipment and/or substantial vibration but not located directly above primary working areas. These areas include the Rig Floor, Main Deck, Cantilever Deck and exterior, Mud Pump Room, Shaker Area, storage rooms and Heavy Tool Store. This also includes legs and jacking columns.	Area directly above primary working areas that have frequent operations with moving equipment and/or substantial vibration. These areas include the Derrick, Sub-base, Deck Cranes, Moon Pool area and under the Cantilever.

Table 4.1.1. – Drops Likelihood

DROPS Standard	Page 1	RMS-DOP-801
Uncontrolled When Printed		



#### 4.1.3 Drops Matrix

Risk and associated controls will be determined using the Company Drops Matrix (See Table 4.1.3). Frequency of inspection is driven by the likelihood of a dropped object for that area on the rig. Required securing for PDOs are driven by the combination of dropped object likelihood and potential severity (height and weight) of the PDO.

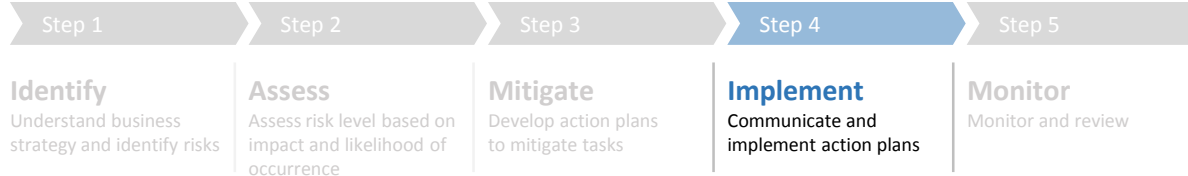
Based on the assessed likelihood of a PDO falling from an area and the potential severity of the dropped object using the drops calculator, the required inspection frequency for each area will be reflected in the Preventive Maintenance frequency in the CMMS. Additionally, the DROPS Matrix specifies the types of required securing to be installed for each PDO and will be used to develop detailed DROPS Registers for each rig.

DROPS Likelihood (By Rig Area)	High	Frequency of Inspection: 30 days + Annual Securing: Primary, <u>Secondary</u>	Frequency of Inspection: 30 days + Annual Securing: Primary, <u>Secondary, Safety</u>	Frequency of Inspection: 30 days + Annual Securing: Primary, <u>Secondary,</u> <u>Safety</u>
	Med	Frequency of Inspection: 90 days + Annual Securing: Primary	Frequency of Inspection: 90 days + Annual Securing: Primary, <u>Secondary</u>	Frequency of Inspection: 90 days + Annual Securing: Primary, <u>Secondary,</u> <u>Safety</u>
	Low	Frequency of Inspection: Annual Only* Securing: Primary	Frequency of Inspection: Annual Only* Securing: Primary	Frequency of Inspection: Annual Only* Securing: Primary, <u>Secondary</u>
		Low	Medium	High
Potential Severity (Drops Calculator - Weight x Height)				

Table 4.1.3 – Drops Matrix

NOTE \* for low DROPS likelihood areas individual tracking of potential dropped objects in a register is not required as per section 4.3.2. For low DROPS likelihood areas, an Annual inspection consists of a general visual inspection of the areas (See 4.3.1.1).

# DROPS Journey



## Implement

- Established internal DROPS teams
- Conducted training and mentoring of crews
- Deployed risk based inspection work orders in CMMS
- Standardized 3<sup>rd</sup> party verification of our inspections using Rowan's DROPS Standard
- Tested several tagging and data collection methods
- Promoted importance of reporting Dropped Object and Potential Dropped Object incidents



## ROWAN RELENTLESS RIG 204 DROPS SURVEY FINAL REPORT

ROWAN COMPANIES, PLC

	Area and Zone	Inadequate Barriers	Inadequate /Poorly Installed Safety	Inadequate Primary Securing	Inadequate Secondary Retention	No Safety Securing	No Secondary Retention	Poor Housekeeping	Redundant Equipment	Unsecured Grating	Use of Double Nuts
1											
2	Area 1										
3	A1/Z1										
4	A1/Z2	1	1	1	6	5	1	4			
5	A1/Z3	1			2					1	
6	A1/Z4										
7	A1/Z5										
8	Area 2										
9	A2/Z1		4		7	4		1			
10	A2/Z4										
11	A2/Z5			1	4					1	
12	Area 3										
13	A3/Z1			5	1	2	3		3		
14	A3/Z2	2		3	4	1		1	2		
15	A3/Z3								2	1	
16	A3/Z4				1		1				
17	A3/Z5				2						
18	A3/Z6				2						
19	A3/Z7				2					1	
20	A3/Z8			1							
21	A3/Z9	1		1	1		1				
22	A3/Z11										
23	A3/Z12					2					
24	A3/Z13										
25	A3/Z14										
26	A3/Z15										
27	A3/Z16										
28	A3/Z17				1			1			
29	A3/Z18				1						
30	Area 5										
31	A5/Z1			1	2		1		1		
32	A5/Z2				4						
33	A5/Z3			1	1						
34	Area 6										
35	A6/Z1										
36	A6/Z2			1		1	1				
37	Area 7										
38	A7/Z1			1	2	2	1				
39	A7/Z2			1					1		
40	A7/Z3	2		2	3			1	1		
41	A7/Z4										
42	A7/Z5	2					3			1	
43	A7/Z6	2		1	1		1	1			
44	A7/Z7	15		1		1	1				
45	A7/Z8	3		5	3	6		4			1
46	A7/Z9				3		1				
47	A7/Z12	1		2		2			1		

Rowan DROPS Survey Report	Issue Date:	8/17/2018
Rowan Relentless Rig 204	Originator:	Chris Powe

**High Risk Area - Area 1 Zone 2 (Underside of Crown to Top of Wind Wall)**

**A1Z2F13**, 1<sup>st</sup> level deck above DW, Sheaves need to have safety securing installed.



**A1Z2F14**, 1<sup>st</sup> level deck above DW, Sheaves need to have safety securing installed. (4 total)



**A1Z2F15**, Deck above driller shack, items left on deck close to handrail. **CORRECTED**

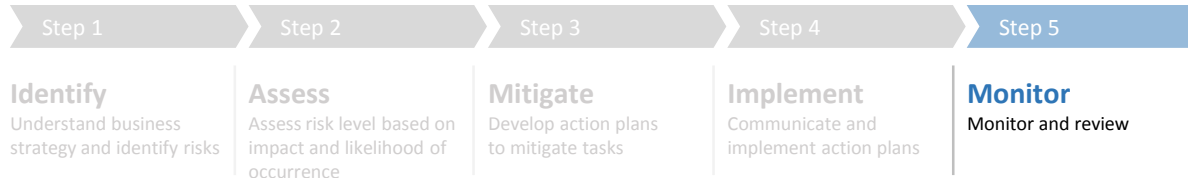


**A1Z2F16** deck above drillers shack, items left close to handrail could fall. **CORRECTED**



Document Control Number	DOS-204-18-001
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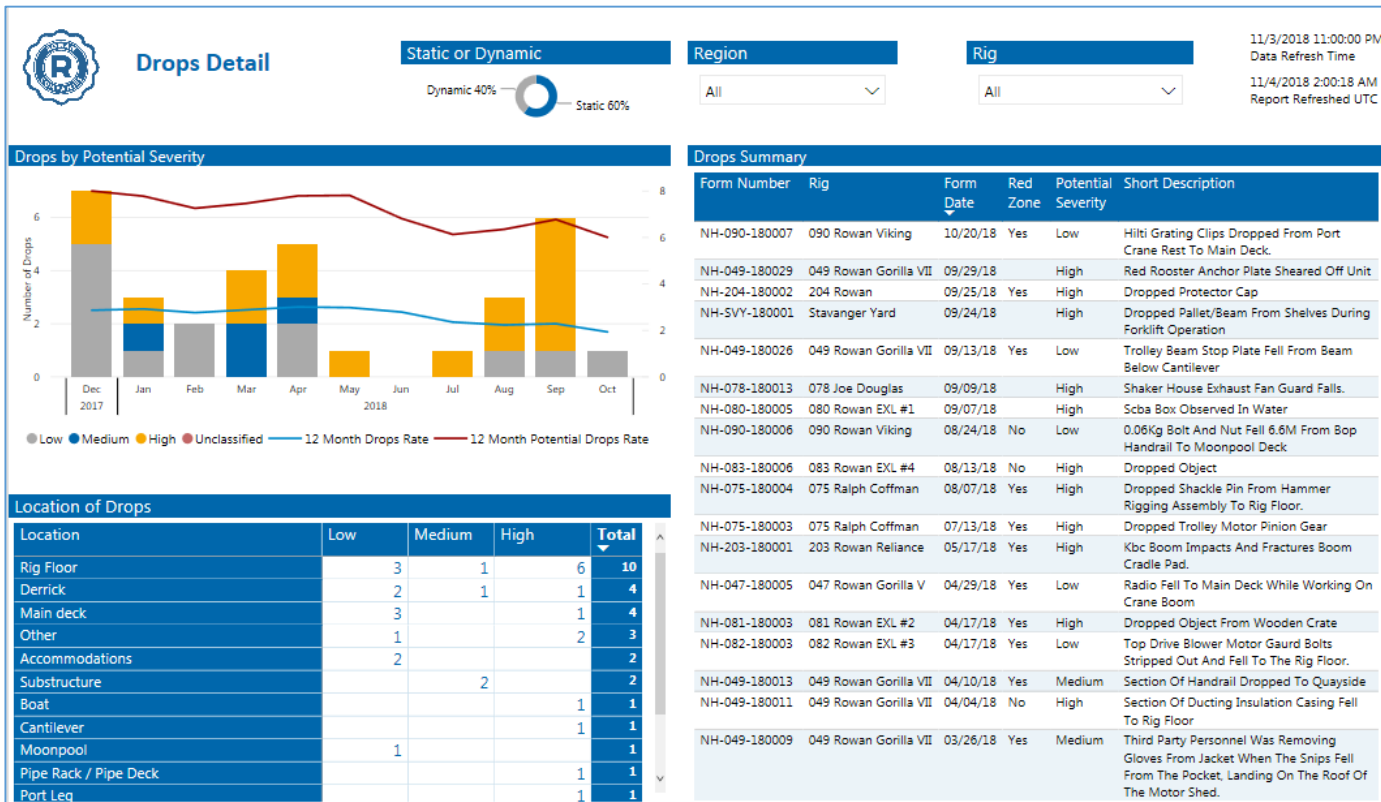
# DROPS Journey



## Monitor

- Utilize PowerBI to report DROPS and Potential DROPS Rates
- Filter data for area and type of dropped objects
- Investigate to understand root causes and human influencing factors
- Utilize information to Identify and Assess effectiveness

# DROPS PowerBI Dashboard



# Way Forward

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## We Have A Long Way To Go

- Internal DROPs reports show significant issues
- Merging DROPs inspections with normal maintenance activities
- Move DROPs object hierarchy into Rowan CMMS
- Consistent “electronic” tagging across fleet
- Electronic DROPs book

THANK  
YOU

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