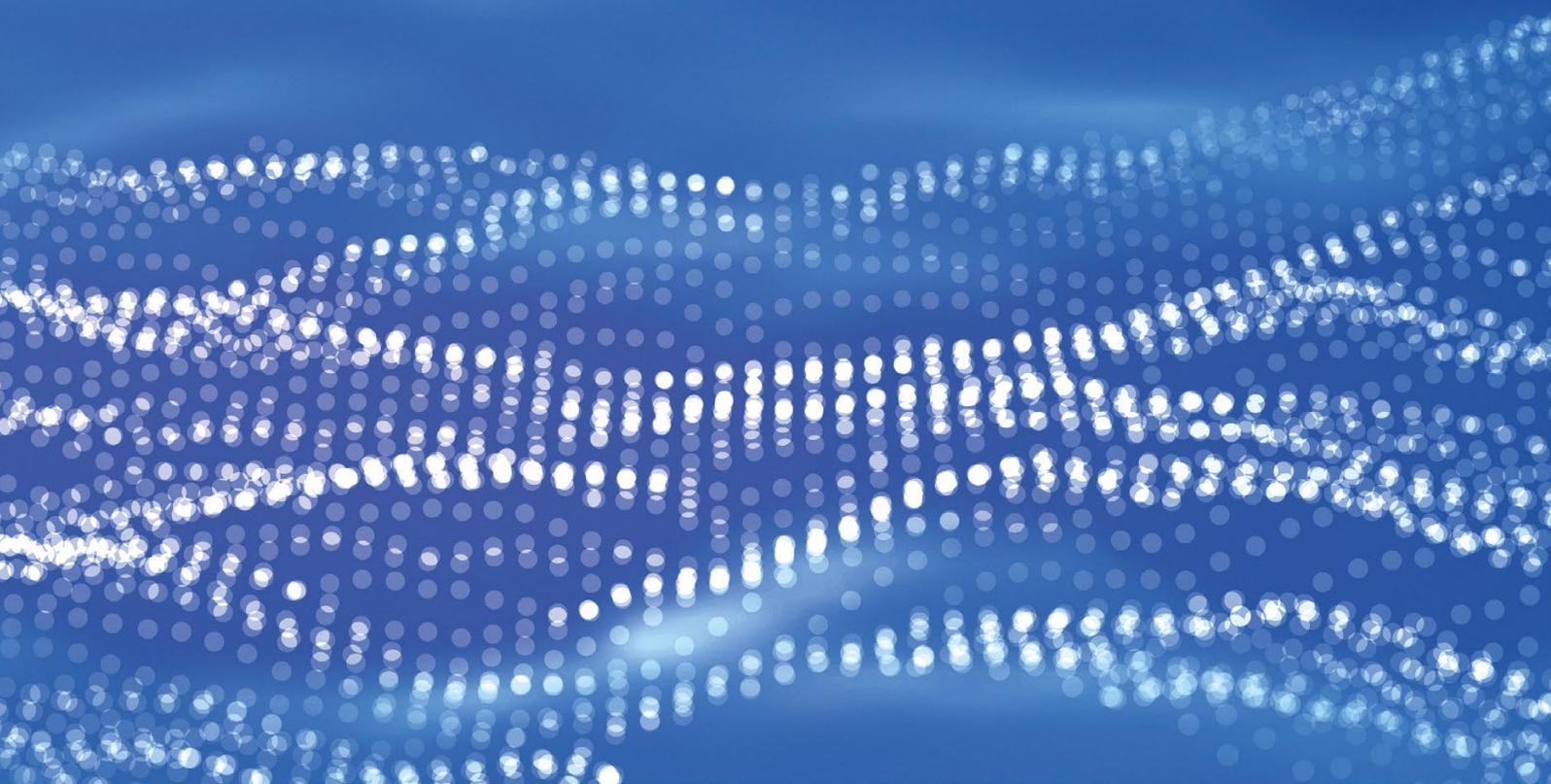




# IMCA DP Conference 2022 - Report

July 2022





## The International Marine Contractors Association (IMCA) is the international trade association representing offshore marine contractors, service companies, and the industry's supply chain.

IMCA's mission is to improve performance in the marine contracting industry. To achieve this, we leverage the expertise of our Members through conferences, seminars, and our large network of committees.

IMCA's inaugural DP Conference was held in Amsterdam on 31 May-1 June 2022. IMCA intends to hold the event on an annual basis with the next Conference planned for **9-10 May 2023**.

The 2022 Conference was aimed at those involved in both offshore renewable energy and offshore oil and gas DP operations,

The event provided an opportunity for IMCA members and industry colleagues to participate in an industry forum where attendees heard from experts actively involved in dynamic positioning and had the opportunity to take part in Q&A sessions and workshops that will help to formulate the work programme for IMCA's DP Committee.

## Dynamic Positioning is in our DNA as our heritage goes back to 1989 in this area.



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# DP Conference Objectives

IMCA's inaugural DP Conference was held in Amsterdam on 31 May-1 June 2022. IMCA intends to hold the event on an annual basis with the next Conference planned for **9-10 May 2023**.

Stephen Peet, IMCA's Technical Director, opened the conference by setting out the objectives for the two-day technical programme, these were as follows:

- Canvas opinion from the attendees
- Inform the attendees of the activities of IMCA's DP and eCMID Committees – Graeme Lorensen was introduced as the new Chair of the DP Committee, John de Hartog was thanked for his contribution
- Present IMCA's DP Committee roadmap for the next 12 months
- Receive feedback from the attendees

## Sponsors

IMCA thanks our event sponsors for their support.



# Keynote

Jakob Neilson, G+

Jakob Neilson who was representing the G+ gave a keynote speech on the activity of G+ and its collaboration with IMCA and how it will continue to move forward with close ties between both associations.

An overview of the G+ organisation was presented along with the list of members and associate members.

G+ has been collecting data since 2014 of events/incidents within the windfarms, this provided a good overview of the issues facing this relatively new industry, the data has led to the development of the following good practice guidelines that are freely available on the G+ website:



- Offshore wind farm transfer
- Working at height
- The safe management of small service vessels
- Reducing manual handling / ergonomics incidents
- Reducing dropped object incidents
- Emergency response
- Ladder climbing
- Helicopter Operations

G+ recognises that there are already organisations such as IMCA that have existing guidance that can be leveraged for the Offshore Wind Industry, one such suite of documents is IMCA's Best Practice documents for Offshore Lifting that are applicable to the Wind Industry and therefore there is no need to duplicate.

**G+ & IMCA** – below is an overview of the collaboration between the two associations:

- G+ is referencing IMCA as best practice for Offshore (Wind) Lifting.
- There is no need or intent to duplicate work
- G+ members are committed to implement G+ guidance. This then includes relevant IMCA Guidelines and ensures acceptance
- G+ is already in contact with IMCA over other topics
- It's a competitive environment with multiple organisations and associations but G+ prefers solid partners with a good track record and IMCA fits this profile.

## Summary of the Presentation

- Collaboration between IMCA and G+ is a win-win situation and ensures wide acceptance
- Increased need for solid rocks in a growing and expanding market situation
- The value of solid knowledge is increasing – so keep up the good work!

# 1 Session 1 – IMCA DP Reflections

Chaired by Harry Verhoeven, Vice-Chair, DP Committee

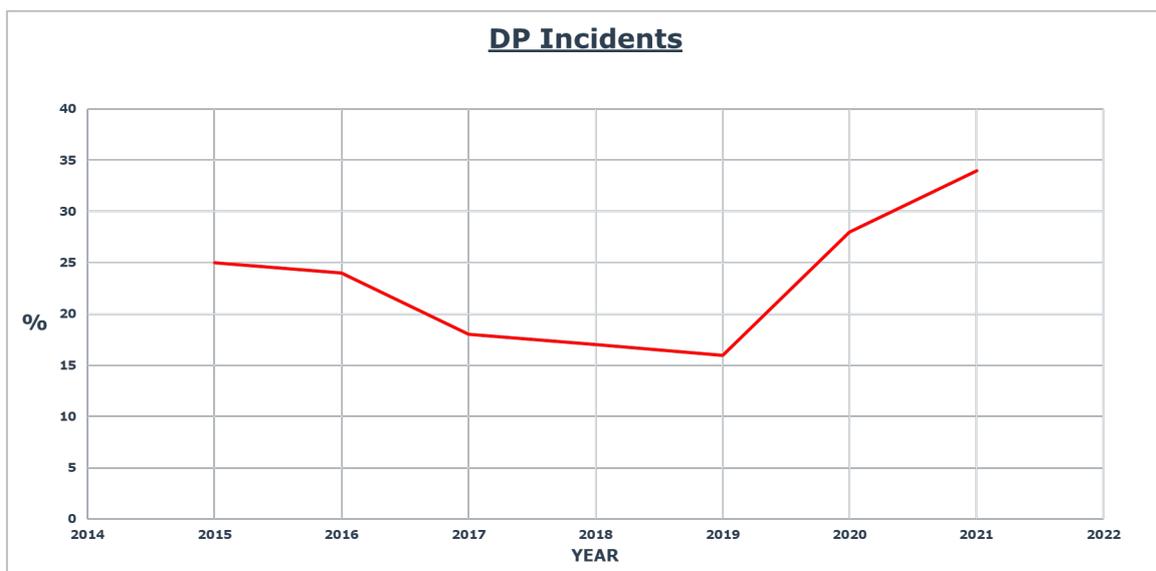
Harry Verhoeven, the Vice-Chair of the DP Committee, opened the first session of the day. Summaries of the sessions follow under their respective titles and sub-headings.



## 1.1 DP Event Reporting – Richard Purser, IMCA Technical Adviser

DP events are reported to IMCA by members. The data is then anonymised and analysed to track and trend event data and identify any areas for concern and focus.

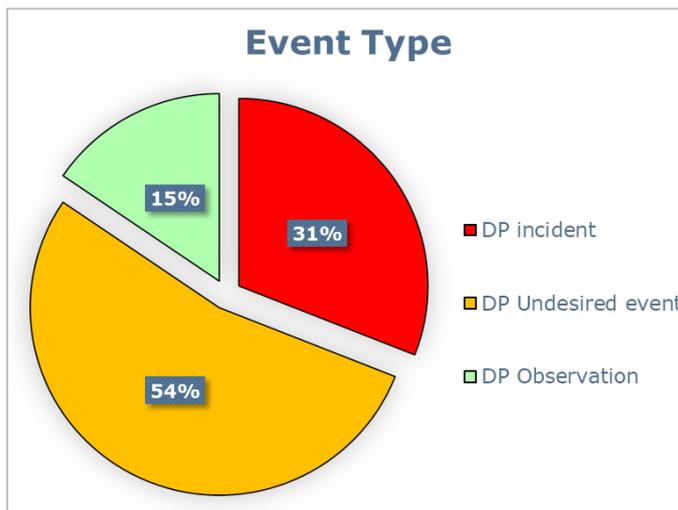
The reported DP events from the past 500 days were presented to the conference, which highlighted that the percentage of DP incidents compared to the total amount of reports received had increased from 2019, a year before the pandemic hit.



Percentage of DP incidents per year of reporting

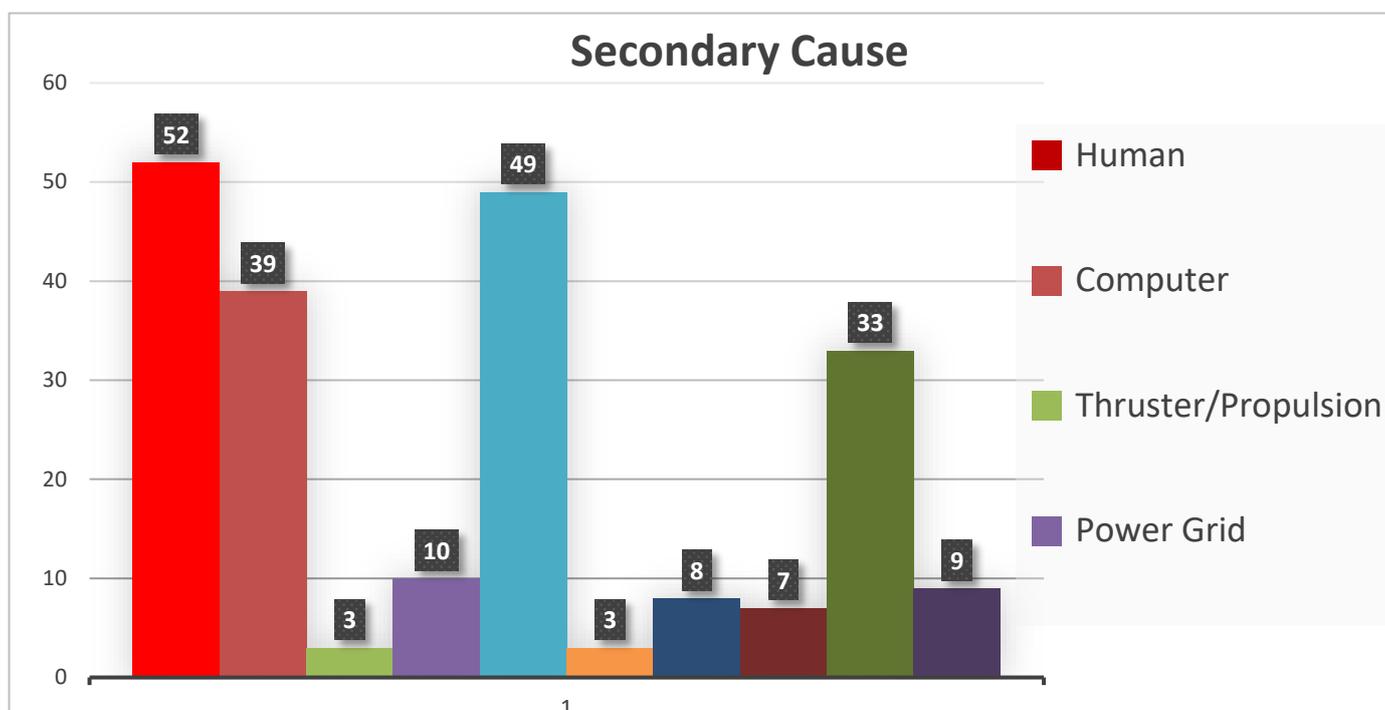
The definition of a DP incident for IMCA DP event reporting purposes is – a major system failure, environmental or human factor which has resulted in a loss of DP capability leading to loss of position or heading.

A full overview of the last 500 days of reporting is shown in the pie chart below:



Percentage of events reported by type in the past 500 days

The trigger (root) causes are shown on the following graph:

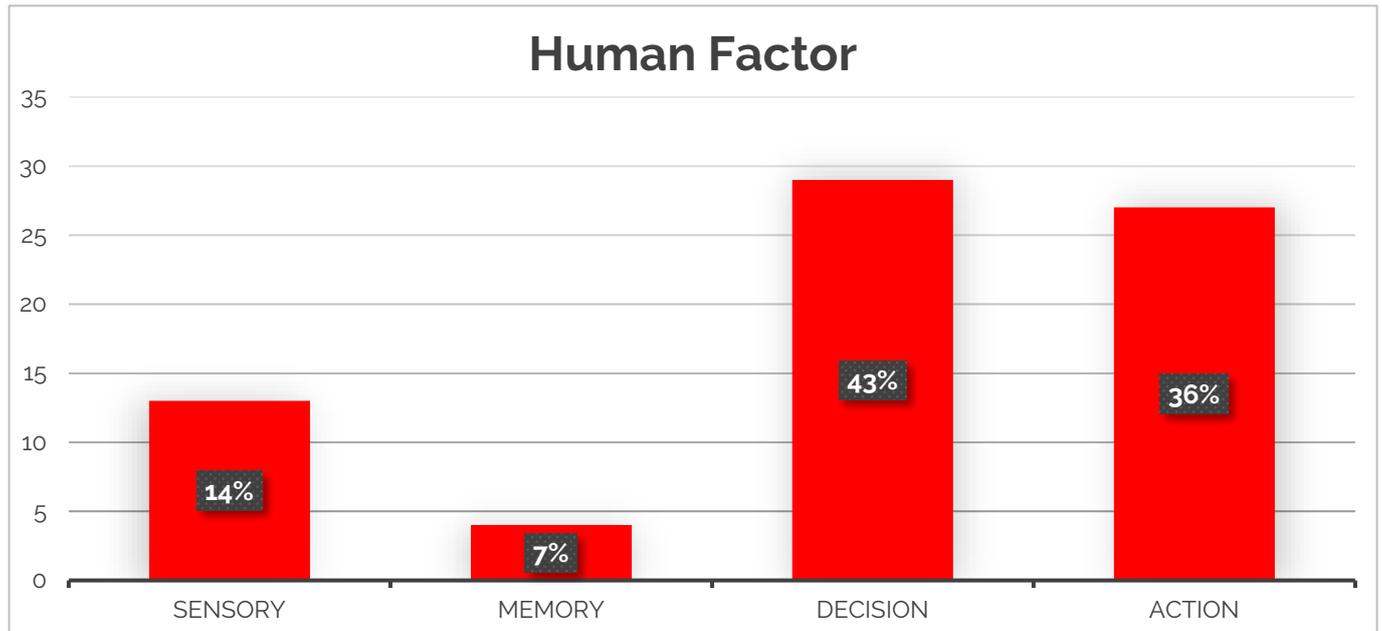


For the purposes of the DP event reporting process this was referred to as the 'secondary cause' and is defined as "the trigger for defeating the redundancy concept of the DP system again considering the system sub system, environmental, external or human factor".

The graph showed that the highest trigger was attributed to 'human' factors. The human factors can be analysed further and broken down into four areas:

- Sensory error - errors caused by difficulty distinguishing functions, controls, colours, labelling, etc.
- Memory error - errors caused by forgetting to make a selection or setting.
- Decision error - errors where a clear decision was made to operate in a particular way.
- Action error - errors where a function or control was selected incorrectly.

A breakdown of the 52 events reported which were attributed to 'human' factors is shown below:



The majority of the 'human' initiated events were attributed to 'decision' and 'action' errors. It was suggested that one reason for this could be that the decision support tools, that should be in place, were badly written, interpreted, not used or ignored?

Decision support tools were presented in session 5 and are discussed further within this report.

74% of the events attributed to the 'human' factors had resulted in a DP incident.

### Summary of the Presentation

- All event reporting is treated as confidential by IMCA
- The database of event reports was growing and provides a useful source of information
- Human factors play a significant role in the events reported and more work was required, and we need to understand why this was the case
- Publications and recommended practices were influenced by event reporting and data constantly reviewed. Increased event reporting was encouraged by vessel owners/operators to build up the database and allow effective remedial actions to be identified.

Of the events reports submitted to IMCA, data showed that DP operations had become less safe since 2019.

## 1.2 Accreditation Scheme and CPD – Graeme Reid, IMCA Technical Adviser

IMCA introduced its DP Practitioner Accreditation Scheme in May 2019. This session provided an update of the scheme and how effectively it was being implemented.

The scheme aims to improve the consistency and conduct of DP trials and to set a recognised level of knowledge for DP assurance personnel.

As part of this process, operators can be assured that DP practitioners who are conducting audit duties are accredited to a recognised standard and that they meet the OCIMF requirements.

There are two categories of practitioner:

- 1 DP Trials & Assurance Practitioner - A person actively involved in producing, witnessing and assessing the results of DP FMEA proving trials and DP annual trials programmes.
- 2 Company DP Authority - A person who manages, and provides advice on, DP assurance processes and is typically employed within a vessel owner or charterer company.

The scheme has five main elements that the candidate is required to demonstrate in order to acquire and maintain accreditation:

- Code of conduct
- Certification and qualification
- Experience and knowledge
- Initial examination
- Three-year revalidation

There were currently 56 accredited DP Trials & Assurance Practitioners and 18 accredited Company DP Authorities.

A high number of candidates had been unable to meet the criteria in the application process in terms of being unable to provide supporting evidence in many areas including DP trials, FMEA involvement, gap analysis, incident investigation, operational planning. It should be noted that all those unable to meet the criteria were still conducting DP assurance activities globally.

There have been 34 exam failures since the start of the scheme, these included those attempting the exams for the second and third times. It was highlighted that the exam was not aimed at the subject matter expert level but was targeted at those with more of a basic understanding of the tasks to be carried out.

Some of the questions raised included:

- What is preferable – someone who can demonstrate a minimum requirement and understanding or someone who has not been able to demonstrate this formally?
- Can you be sure that the person conducting DP trials on your vessel is suitably equipped with the right knowledge and experience?

### **Summary of the Presentation**

IMCA believes this scheme can make a difference and that with wider adoption the bar can be raised on the subject of DP trials and assurance. There were far too many individuals undertaking DP-related work scopes that simply do not have the experience, knowledge and competency to do so.

Accreditation was now a recommendation within a number of IMCA guidance documents, for example IMCA M 190, IMCA M 166 and IMCA/MSF 182, all recently published or updated.

The feedback from those involved in the scheme was positive and IMCA intended to refresh the exam later in 2022 to ensure it remained relevant.

Engagement and participation in the accreditation process needed to be improved and a targeted marketing and communications campaign would be implemented to address this issue.

### 1.3 IMCA Documents – Dennis Harger, DP Committee

An overview of the workings of the DP Committee was presented to the audience with a summary of the documents reviewed and produced over the last 18 months.

The following items had been issued

- DP event bulletins were produced on a quarterly basis
- Annual DP station keeping events report (IMCA M 258)
- Guidance on position reference systems and sensors for DP operations (IMCA M 252)
- Guidelines for walk to work operations (IMCA M 254)
- GPS systems – warning of interference (information note 1525)
- Position reference systems (information note 1567) – correct set-up is essential
- DP consequence analysis– a timely reminder (information note 1601)
- FMEA (information note 1605) – five-yearly review

The following documents were anticipated to be updated or published as new guidance in 2022.

Working title of document or project	Doc. No.	Document Status
Safety interface document for a DP vessel working near an offshore platform	IMCA M 125	Review in process
Example redundancy concept and DP annual trials for a DP class 3 vessel	IMCA M 225	Published Nov 2021
Network storm testing guidance	IMCA M XXX	Proposed issue Q4 2022
International guidelines for the safe operation of dynamically positioned offshore supply vessels	MSF 182	Published May 2022
The training and experience of key DP personnel	IMCA M 117	Review in process – Proposed issue end 2022
Specification for DP capability plots	IMCA M 140	Review in process – Proposed issue end 2022
Introduction to hybrid battery systems for DP vessels	IMCA M 250	Review in process – Proposed issue end 2022
Vessel assurance	IMCA M 204	Review in process – Proposed issue end 2022
Offshore vessel high voltage safety	IMCA M 217	Review in process – Collaboration required; issue proposed 2023

#### Summary of the Presentation

- This was an ongoing review of all IMCA documents.
- Information notes were published as new issues arise and some would be produced following the 2022 DP Conference.
- Network storm testing guidance is to be published in Q4 2022
- IMCA requires continuous feedback from all its members to maintain and ensure the documents are current and fit for use.

## 1.4 DP Practitioner Trial Findings – Graeme Lorensen, Chair DP Committee

An overview was given of the new trials findings reporting scheme which had been set up following the successful roll out of the DP Trials & Assurance Practitioners scheme.

The scheme was established for the following reasons:

- To gain an insight into significant issues during testing
- To confirm the written objective was realistic
- To understand what findings were most prevalent across industry
- To identify if the findings were specific to vessel types or common across industry
- To confirm if the findings were objective or subjective
- To determine if there were common findings which were poorly graded

Without the above there is a risk that mistakes in the methodology of test sheets would go unnoticed, test protocols would remain unchanged, and the guidance would remain static.

Objectives of this scheme:

- To ensure test objectives were correctly stated
- To ensure test steps were correct for the objective
- To highlight potentially dangerous testing practices
- To allow for guidance/information note development

The scheme is similar to that for DP event reporting and once fully live, the user would be able to download a report form from the IMCA website. Currently the scheme was in use with the Accredited DP Practitioners and to date there had been a good response and several reports had been received.

A database would be set up to allow for data mining. The plan was that examples would be published within the quarterly DP events bulletin.

IMCA looks forward to making progress with the scheme and would further update the members at the 2023 DP Conference.

## 1.5 Future Objectives – Workshop

A brief workshop was held which asked the audience what they would like to see within the future objectives of the DP Committee. Each table was asked to report out on three objectives they thought important for the DP Committee to focus on. A sample of some of the ideas is listed below and these would be discussed at the next DP committee.

- Continue to promote the use of the DP Practitioner Accreditation scheme.
- Updating of IMCA M 250 with examples of concepts and considerations.
- Guidance on DC power systems and in particular, verification and validation of closed bus tie DC systems
- IMCA guidance for barge mooring operations alongside DP vessels
- IMCA/class to develop a closer collaboration
- Force off scenarios
- Data centric approach to DP events
- Development of surveyor-less DP trials with regards verification and validation of results

IMCA always welcomes suggestions from members on DP objectives.

## 2 Session 2 – Technical Work of DP Committee

Chaired by Joey Fisher, DP Committee

### 2.1 Network progress – Matt Snowdon, Network Workgroup member

An overview of network storms was given and how/why they were created along with the differing types of networks and how data types can be managed on these networks from junk data to recognised data. The definitions of data type were presented as below:

- **Junk data** was how we describe confused data of no particular format or of a format unrecognised by the components. It may contain a variety of protocol types and packet sizes, and even fragments of message.
- **Recognised data** was data that conforms to expected protocols that are present on the network by design during normal operations. It may contain valid handshaking and security information that permits free flow of data to and from all network components. Having been recognised, the data will prompt components to process it and try and do something with it.



The definition of a network storm was as follows – “The presence of undesired data and/or undesired behaviour of data on a communications network, demonstrating one or more of the following characteristics”:

- Excessive quantities of data, including junk data and/or recognised data
- Blocked, impeded and/or intermittent data transmission
- Corrupted, degraded or malformed data transmission

The challenge was to produce a test that would replicate the above, the causes of a storm could be as follows:

- Flawed design (F1 keyboard error)
- Inadequate commissioning (damaged cables)
- Network component failure (overheating, vibration, fatigue)
- Software/configuration issues (wrong version, bugs)
- Interoperability issues between manufacturers (incompatible firmware)
- Operator error/maloperation (DIP switch settings, wrong port or parameters)

The effects of a storm can be varied but can include persistent irrelevant alarms, malfunctioning software and misleading feedback and data. When communications are disrupted, especially on integrated systems, all sorts of irrelevant alarms can appear. Because the control software can also be disrupted, these alarms cannot always be silenced, creating a high-volume assault when the operator attempts to identify the problem. This can be stressful and overwhelming. Much of the feedback received on the bridge is also supplied over a network, so the operator may experience data disappearing, freezing or simply showing misleading values. It is also possible analogue gauges may

receive their signals over digital networks. For DP systems, the consequence can be loss of control and/or unintentional commands, all could lead to drift off or drive off.

What can be done to understand and reduce the risks?

- Define the problem
- Define competence
- Identify systems at risk
- Evaluate the risks (failure modes, effects, and mitigations)
- Apply and test mitigations
- Periodical verification

IMCA had formed a workgroup to write guidelines for the management of DP system network storms. The objective was to raise awareness of the issues within the industry and put the subject firmly on everyone's radar and finally give it the attention it deserved.

This document was due for publication in Q3 2022.

### Summary of the Presentation

There was a lot of faith invested in dual networks but having two of something doesn't necessarily make it redundant, even if we recognised and corrected design failures for new systems, that did nothing to help existing systems.

The industry needs to look at this calmly and objectively. To date, the subject hadn't received enough focus:

- We need to start somewhere
- Shipowners, OEMs and practitioners can't be expected to immediately have the answers for questions that haven't even been thought of yet
- People need to understand the subject – networks, IT/OT – Especially FMEA practitioners analysing for FMEAs
- A framework needs to be created for this issue with appropriate vocabulary so it can be discussed openly
- We need to understand the scope of the issue, and where we think it *does and does not* apply
- The problems need to be defined
- FMEAs will need to analyse the vessel networks and include testing as part of the FMEA proving trials and some aspects of the annual trials
- Testing will need to be carried out by competent people, whether third party specialists or OEM service engineers, and DP practitioners will need enough competence to evaluate the results of the testing and form an opinion

## 2.2 Hybrid Power – Pawel Panka, Chair, Marine Division Management Committee (MDMC)

A presentation was given by TechnipFMC about the hybrid battery upgrade and the challenges associated with such a project. The key takeaways from the presentation were:

- Vessel's worst case failure design intent (WCFDI) was not altered from the original set up which is loss of one of the two redundant groups.
- Batteries were placed in both redundancy groups.
- On a two-way split the batteries can replace the spinning reserve and allow short term backup allowing for standby engines to start and connect.

- If auto start was not possible, batteries would provide approx. five mins power, after that the power plant will equal the WCFDI.
- The peak shaving and enhanced dynamic performance allowed tighter station keeping and quicker reaction to thruster and other equipment demands. The power was available without generators having to quickly ramp up.
- Modifications to PMS, IAS and DP control systems were required.
- All hybrid equipment was fitted below deck in space already available.
- Lithium batteries mean that only the top 50% of available capacity was used and full discharge would significantly shorten the life of the battery. Energy density was an issue which only allowed for approx. five mins full use.
- Benefits of up to 25% less fuel consumption for typical DP operations and 50% less engine running hours.
- The next phase would be to facilitate 'cold ironing' to allow for emission-free operations in port.
- Vessel suffered sea water ingress into the battery cells during heavy weather which led to air duct modifications on deck to prevent re-occurrence.

### Summary of the Presentation

The summary was presented as the lessons learnt throughout the upgrade and operation of the hybrid system and these included:

- System setup:
  - Initial system stability and load sharing issues:
    - Adaptation of load and frequency reference signals, to fine tune engine load sharing
    - Modified engine load dependent start, to optimise engine running with ESS across operational modes
- Crew training and familiarisation:
  - Crew training and system documentation were provided prior to putting system into service, however:
    - Multiple new alarms and warnings inevitably present themselves, which take time to understand the true meaning and what (if any) actions need to be taken, or changes to the system
  - OEM service engineers were mobilised to provide extended onboard training and support, during real-time operations
    - Initial in-service support will be incorporated as standard on future upgrades, capturing the back-to-back crew
    - OEM developing better training programmes, at dedicated training centre, hands-on ESS training
- Battery safety:
  - Battery ventilation – Design & Redundancy is essential, water ingress to be analysed and addressed
  - Crew training on batteries – batteries should never be removed from cubicles as monitoring and cooling will no longer be possible

Based on these learnings it is expected that there will be updates/reviews of class rules for future revisions. An Industry safety flash will be issued.

## 2.3 FMEAs – Joey Fisher, DP Committee Member

An overview of the FMEA five-yearly review Information note was given. This was deemed necessary because IMCA had received a lot of feedback from members that five-yearly reviews were not being carried out or were not being carried out comprehensively with the required level of due diligence. To address this, the DP committee had decided to bring more clarity to the subject, and it was decided that the best way to do this would be to issue an information note that directly addressed the subject, rather than incorporate it into a separate guidance document such as IMCA M 166.

Without a periodic review, all of the DP vessel stakeholders (i.e., owner, charterer, end user) would be missing out on the opportunities to benefit from new guidance and lessons learned within the industry, and potentially capture changes to the vessel, therefore the reasons for such a five-yearly review were:

- New knowledge
- Improved fault tolerance
- Making the DP system more robust
- Improved quality
- Capture changes since prior review

IMO MSC.1/Circ.1580, Guidelines for vessels and units with dynamic positioning systems, Chapter 5.1.2 stated:

*For equipment classes 2 and 3, an FMEA should be carried out. This is a systematic analysis of the systems to the level of detail required to demonstrate that no single failure will cause a loss of position or heading and should verify worst-case failure design intent. This analysis should then be confirmed by FMEA proving trials. The FMEA and FMEA proving trials results should be kept on board and the FMEA should be kept updated so that it remains current.*

IMCA M 166, Guidance on failure mode effects analysis guidance, Chapter 2.7 – Updating of an FMEA stated:

*The FMEA will become out of date if it is not maintained regularly and systematically, due to changes in operating procedures, modifications to DP hardware and software, to confirm compliance with the latest industry guidance, etc., over the life cycle of the vessel. If this happens, it is likely that another FMEA revision will be incurred later. A systematic FMEA review through the vessel's life cycle should be an ongoing process which should be formally completed at least once every five years.*

The owners of the DP FMEA are the DP vessel owners themselves and the objective of the information note was to remind these owners to treat the FMEA as a living document that can be leveraged to:

- Demonstrate the vessel owner's commitment to a process of continuous improvement through the adoption of current industry good practice
- Remain in step with current and evolving industry guidance
- Ensure the DP system remains robust, resilient, and single fault tolerant.

The following should be considered when undertaking the review:

- Guidance changes
- Class rule changes
- New knowledge
- Lessons learnt
- Re-validation and re-verification
- Improved Presentation
- Mission Equipment

The following persons can participate in the review process:

- Vessel staff
  - DPOs
  - Engineers
  - Electro techs
  - Mission specialists (if applicable)
- Vessel management

- Third-party IMCA Accredited DP Practitioners
- DP class surveyor

The person responsible for the final overall review must be suitably qualified to conduct such a review, preferably a IMCA DP accredited practitioner.

### Summary of the Presentation

- The IMCA Marine DP Committee promotes the practice of maintaining an up-to-date DP system FMEA/FMECA.
- A main objective of the FMEA is to provide objective evidence of redundancy and fault tolerance throughout the life cycle of the DP vessel.
- It is therefore a safety item necessary for the assessment of a DP vessel's capability to perform its industrial mission.
- A periodic review of the DP FMEA is required to take advantage of new knowledge, industry learnings and progressive insights.
- IMCA M 166 - A systematic FMEA review through the vessel's life cycle should be an ongoing process which should be formally completed at least once every five years.
- Information note 1605 (February 2022) – IMCA recommends that a general review cycle is undertaken at least every five years in line with the five-yearly periodical trials that are detailed in IMCA M 166.

Information note 1605 can be found on the IMCA website.

## 2.4 PRS and Consequence Analysis – Áine Hyde, Anglo-Eastern (UK) Limited

### 2.4.1 Consequence Analysis

An overview of the DP consequence analysis information note was given. Following a review of the 2020 Annual DP Station Keeping Event Report published by IMCA in January 2021, the IMCA DP Committee agreed that an objective for 2021 was to create an information note explaining the subject of DP consequence analysis and its benefits in reducing DP station keeping events whether they be in the category of DP incident, DP undesired event or DP observation.

The DP consequence analysis system can be explained as:

*A monitoring function in the DP control system that issues an alarm if the vessel, (in its current operation mode) in the current weather conditions, would not be able to keep the heading and/or position in the case that the predefined worst-case failure should occur.*

The reasons for this information note were based on the following:

- DP station keeping events reports – Many reported events stem from the lack of understanding, or use, of the consequence analyser
- DP Committee concerns – Concerns raised within the DP Committee meetings from the above
- Pen down discussions – Chatham House rules discussions within the DP Committee with real life experiences.

### Summary of the Presentation

The following considerations should be noted:

- If the consequence alarm is active the vessel is beyond its capability to maintain position or heading
- Needs to be active, not off
- Setup should reflect that the power and propulsion systems remaining in operation after WCFDI (worst case failure design intent)
- Time to terminate
- Intermittent triggering means the vessel is operating outside the post WCF (worst case failure)

## 2.4.2 Position Reference Systems

An overview of the position reference guidance document was given. The guidance was a result of the DP Events reporting with the most common issues being:

- Incorrect selection
- Incorrect power supply selection
- Masking elements
- Third party interference with signals
- Telemetry Issues following vessel upgrades

### Summary of the Presentation

The following considerations should be noted:

- Minimum of three PRSs using two different principals
- Mission conflicts
- Nearby structures
- Power split along redundancy concept
- Relative movement of vessel and target point
- Area of operation
- Environmental conditions

Information Note 1601 can be found on the IMCA website [here](#)

Guidance document IMCA M 252 can be found on the IMCA website [here](#)

## 3 Session 3 – Quickfire Round – Innovative Technology

The Quickfire, Totally Technology Session provides an opportunity for often small and medium sized companies to showcase their ideas and innovations to industry leaders in a dynamic and inspiring way. For the 2022 DP Conference four companies were invited to give a 10-minute presentation against the clock on their innovative/novel approach to a particular issue within the industry. The four companies chosen to present their ideas were:



### 3.1 OneStep

Joseph Gorman showcased OneStep's innovation in testing power supplies and the integrity of the vessels power grid with particular attention to protection for common DC systems and closed bus low voltage three-phase systems.

<https://www.onestepower.com/>.

### 3.2 MO4

Mark Paalvast from MO4 demonstrated how they had developed an operational planning tool to allow real time environmental conditions to predict how a vessel would react allowing the operator to understand the vessels current and predicted footprint in order to optimise DP operations.

<https://mo4.online/>

### 3.3 Kotug

Willem van Woercom of Kotug shared an interesting look at how they had developed towing systems for floating offshore platforms, allowing the tugs that would normally operate by manoeuvring astern to tow over the bow with the stern characteristics. This allowed for DP station keeping control in a more conventional manner as equivalent to a stern towing force.

<https://www.kotug.com/>.

### 3.4 Ampelmann

Maarten de Witt gave an overview of the W2W Gangway that Ampelmann had installed onboard Damen's new crew change vessel Aqua Helix, outlining the advantages of such a combination for crew changes over that of using helicopters.

<https://www.ampelmann.nl/>.

# 4 Session 4 – Assurance and Training

Chaired by Kerrie Forster – Member, eCMID and Marine Renewable Energy Committees

## 4.1 eCMID DP Content/Findings – Sujit Viswanathan, Marine Division and eCMID Committee Member

An overview of the work of the eCMID Committee was given focusing on the following:

- Committee introduction
- eCMID/eMISW statistics update
- Inspection formats
- Report quality/AVI feedback
- Findings analysis/DP supplement
- eCMID system IT update

The objectives and workplan were presented, with the strategic objectives being:

- Keep the eCMID System relevant for the users of today
- Develop the eCMID System for the users of tomorrow
- Promote global use of the eCMID system
- Align with the strategy and objectives of the Marine Division
- A forum for the exchange of views and expertise on matters pertaining to the eCMID and vessel inspections
- Actively engage with key industry trade bodies on vessel inspection matters, e.g., OCIMF (OVID), IOGP

Live reports as of the 1st of May totalled 1429 with a 51/49 split between the two inspection schemes.

- Live reports - 1 May 2022 vs 2021
  - 1429 reports in total plus 98 pending approvals
  - 730 eCMID ▲ +4% max all time: 775
  - 699 eMISW ▲ +5% max all time: 699
  - 426 operators with 1+ reports
  - 394 live AVIs, max 52 reports
  - 1704 active users in 12m

The current version of the eCMID document (IMCA M 149) was Issue 12 – May 2021. This issue included a major overhaul to the machinery spaces section (Section 15) - these changes had been made following feedback received from members.

The DP supplement in eCMID document comprised 13 questions with the additional option of further comments. As part of our commitment to keep the inspection relevant to changes happening in the industry and recognising the energy transition journey that some operators have already started, there were two new supplements to be added, which had been approved by the Committee and would be included in the next revision, in July 2022.



The two new hybrid battery system supplements had started as one single document, but following several discussions and feedback, it was split into two because it was pointed out that not all vessels necessarily with the hybrid power systems were DP vessels therefore the system has hybrid system supplements for DP vessels and non-DP vessels.

The basis for these two new supplements was IMCA M 250 – Introduction to hybrid battery systems for DP vessels. There would be extra training for AVIs on this supplement and guidance.

A report quality check would be carried out, which was planned for 5% of the annual reports, equating to approximately two reports a week. Results would be confidentiality fed back to the committee and the International Institute of Marine Surveying (IIMS) and the outcome used for training and improvements of the scheme. The objective was not to assess the AVI but more directed at the content of the report document and if the questions were being answered in the right spirit and presenting a clear picture to be useful to the end user of the document with respect to their vessel assurance process.

An outline of the new findings analytics tool was given; this tool allowed users to get real-time findings analysis, be it on their own fleet in the case of the vessel owners or the complete question sets in the case of the AVIs.

### Summary of the Presentation

In summary, the eCMID system continued to gather strength, year on year the number of live reports is increasing, the scheme is supported by the eCMID Committee that meet four times a year to ensure that the inspection documents remain current and fit for purpose. Feedback provided from AVIs in the field supported the work of the eCMID Committee.

The IMCA Secretariat continued to upgrade the IT platform and the QA system and provided support for the eCMID Committee.

## 4.2 eMISW DP Content and Findings – Kerrie Forster, eCMID and Marine Renewable Energy Committee Member

The presentation addressed the differences between the eCMID and MISW inspection schemes. It was highlighted to the members of the audience that there was a discrepancy between the eCMID DP supplement and the eMISW supplement and that this required further review.

An overview of the analytics showed the following:

- Only 12 MISW DP supplements had been completed to date
- Only 50% of those inspected had DP user qualifications
- Over 40% of those inspected do not contribute to the IMCA DP station keeping reporting scheme
- Only 33% of those inspected had a copy of their DP trials report onboard
- 25% of those inspected do not have a copy of their FMEA trials report onboard (66.5% not applicable?)

This issue of the DP supplement would be an agenda item at the next eCMID Committee meeting.

## Summary of the Presentation

The eCMID Committee would add an agenda item to review the eMISW DP Supplement.

In summary, the eMISW system continues to gather strength, year on year the number of live reports is increasing, the scheme is supported by the eCMID Committee that meet four times a year to ensure that the inspection documents remain current and fit for purpose. Feedback provided from AVIs in the field supported the work of the eCMID Committee.

### 4.3 Showcase – Simwave and DEME – Cinthya Lopes, Marine Autonomous Surface Systems Committee Member

A novel presentation was given by Simwave with regard to the importance of activity specific operating guidelines (ASOG)/well specific operating guidelines (WSOG) as a decision support tool. A roleplay scenario was presented where a drilling vessel was drilling in open water but due to the large amplitude of the waves, created a very large footprint. Two persons played the DPOs on duty on the bridge who tried to maintain the vessel position and various requests were made from the ECR – reduce running engines, and deck – to allow a PSV in for cargo transfer and a request for the presence of one of the DPOs elsewhere.

The role play highlighted the complexities for the DPOs in managing the vessel's position and the various operational requests from the various department onboard. By having the correct agreed ASOG/WSOG it was demonstrated that the pressure on the DPOs was minimised as they were able to enact the stipulations of the decision support tool without the commercial pressures which often lead to poor/forced decisions and action that would lead to an undesired event.

The role play presentation was followed by a healthy discussion with the audience about the pros and cons of a the ASOG/WSOG and who the signatories should be.



## 4.4 DP-Related Training, Accreditation and CPD - Presented by John Lloyd, CEO of the Nautical Institute

There was an overview of the Nautical Institute's (NI) activities, goals, and progress, with an emphasis on training and certification and continuing professional development (CPD), focusing on:

- Personal skills
- Life skills
- Technical and professional skills

The NI was responsible for the approval of the following:

- Certification for dynamic positioning operators
- Certification for technical staff on DP vessels
- Jack-up barge qualifications
- DPOs on shuttle tankers
- Approval of around 90 training centres
- Recognition of professional development initiatives

The introduction of the DPVM (Dynamic Position Vessel Maintainer) scheme had been successful.

The NI would continue to develop ways in which seagoing professionals could prevent skill fade through revalidation and CPD and had partnered with IMCA in the development of the Key DP Personnel CPD App that is now available.

*CPD is the systematic maintenance, improvement and broadening of knowledge, understanding, personal qualities and skills throughout the individual's working life.*

The learning programme's content was derived from more than 25 years of DP Committee work by IMCA's members and from the NI in the creation and regular updating of the DPO handbook.

Each module of learning contains courses based on six different categories as follows:

- DP regulation and guidance
- DP functional requirements
- DP knowledge enhancement
- DP operations
- DP redundancy concepts
- DP testing and trials



### Summary of Presentation

The Nautical Institute celebrates its 50<sup>th</sup> anniversary this year, with roadshows scheduled at various dates and locations globally.

The NI continued to remain current with collaboration with other associations including IMCA. DP re-certification was under review with new criteria for re-validation being proposed for 2023. Further information would be available on the NI website ([nautinst.org](http://nautinst.org)).

# 5 Session 5 – Operations

Chaired by Steve Myers, North Star Renewables



## 5.1 Challenges of Shallow Water Operations – Matthijs van de Moer, DEME Offshore

Matthijs van de Moer of DEME presented on the challenges that his company was experiencing when operating within shallow waters. DEME was well placed to report on this issue as they had gained experience within the offshore wind farm installation industry over recent years.

An overview of the typical activities carried out by offshore wind contractors was given, along with the typical types of shallow water activities.

The most common industry guidelines for this activity were: DNV's recommended practice, DNVGL-RP-0360 - Subsea power cables in shallow water.

*The distinction between "shallow" and "deep" water is context-specific. In this recommended practice, "very shallow" generally means up to 20m water depth, "shallow" up to 50m, "deeper" more than 50m and "deep" more than 100m.*

Activity	Water depth
Monopiles (pile driving) and Jacket installation	20m-60m
Rock placement with inclined fall pipe or side dumping unit	Under Keel Clearance (UKC) <5m
WTG grouting (fill annular to transfer load to foundation)	20m-60m
Cable pull into OSS or shore	20m-60m
W2W operations	20m-60m
Heavy lifting operations	20m-60m
Dredging operations	Under Keel Clearance (UKC) <5m

Table 5-1 Shallow Water Operations

The above table showed which activities were considered shallow water operations and detailed below were the challenges that were presented:

- Habitat disturbance of eco-systems (construction noise, contamination, thermal radiation, magnetic fields, turbulence)
- Different wave and current patterns close to shoreline (upwelling, longshore and rip currents)
- Subsea structures (wrecks, manifolds, existing cables and pipelines)
- High current areas (river estuaries)
- Congested vessel traffic (separation zones, port entries)
- Explosives dumping and fishing grounds
- Pleasure crafts during summer holidays (COLREG)

- Fog (advection at sea or radiation in a bay, harbour, inlet)

The challenges presented for DP operations whilst carrying out such operations were:

- Very close quarter operations (sometimes 2m from structure)
- SIMOPS (multiple vessels working in the same field)
- Constant DP moves (example rock pancake around mono-pile)
- Acoustic disturbance during grouting, rock dumping etc.
- Sand/mud in cooling seawater intakes
- Greater accuracy (excursions < 1m)
- No visual references on the surface (start of new OWF)
- Sudden unpredicted wind or current shifts close to shore or river estuaries (thermic winds and thermohaline currents)
- Floating debris damaging a thruster (in port or on a river)
- Shape and location thrusters (influence on UKC)
- ROV umbilical getting too close to the thrusters

Some solutions to these challenges in shallow water:

- Bridge lay-out and ergonomics (360 degrees visibility)
- DP assisted mooring operations (anchors & DP)
- Gangway sensors as a DP reference on W2W systems
- New developments for relative reference systems (SceneScan)
- Differential signals using NTRIP protocol via 4G/ 5G networks (hybrid PPP-RTK methods)
- Use of local wave and current measurement equipment
- Use of guard vessels and navigational warnings
- Survey of berth or jacking location beforehand

It was shown that the future was bright within this industry, however the challenges still continue to grow, with the introduction of larger assets and variable locations, these challenges included but were not limited to:

- Wind turbines were getting more powerful and bigger (13-16 MW)
- The next generation XXL mono-piles for water depths up to 60m
- Oil & gas majors are also stepping into the renewable energy market
- Floating offshore wind technology will increase the need for new generation multi-purpose DP offshore wind vessels
- Future OWF development will go further offshore into deeper waters

Three open questions were presented to the audience:

- What are your companies' experiences with shallow water operations?
- Which industry guidelines on shallow water operations are applicable to your DP missions?
- Have you experienced any incidents in shallow waters?

## Summary of the Presentation

It was clear from this presentation that IMCA needed to review existing guidance with the view to include guidance presented by the aforementioned challenges and look to develop a new guidance document specifically for this type of operation. This would be an agenda item at the next DP Committee meeting.

## 5.2 Voice Behind the DP Desk – Áine Hyde, Angelo-Eastern (UK) Limited

The aim of the presentation was to highlight the operational differences between project operations and vessel operational safety from the operator's perspective particularly within the renewable sector which is a rapidly growing area.

By reaching out to DPOs and masters of DP vessels currently operating on windfarm projects, questions were asked on the following four bullet points:

- **In-field navigation**

These were some of the quotes received back:

*The operation is more dynamic as opposed to the regular Construction/DSV/PSV operation. With this faster paced operation, there is greater scope for human error if one isn't focussed and following procedures to the finest point.*

*There is often a lot of activity of other support vessels in the field in addition the wind turbines are operated remotely from a marine coordination centre. Incidents and near misses between vessel structures and blades do occur.*

*This from an operations manager - Potential charterers are reviewing vessel DP capabilities and have been asking for operational guarantees on the rotation speed from one wind turbine to the next.*

- **Operational challenges**

*One thing I notice which feels quite different is the operational planning and when to stop the job, for example; on a rising forecast when it's time to recover an ROV you just go ahead and do it, whereas, when collecting personnel from a TP, you have to stop as late as possible (to allow clients value and good service) but still within some margin of error – it's not a pleasant scenario at times.*

*Critical moments are when a jack-up vessel switches from jack-up mode to DP and vice versa. This operation is always performed next to an offshore asset, and this is a stressful process/time.*

*Costs vs. practicality whereby the best kit costs money and renewables is on a tight budget – Multi tasking/increasing risk.*

- **Reference system management**

*The vessel was unable to operate in DP class whilst on this particular project where no reflectors were provided, that is something I have seen on many fields.*

*A typical issue is the absence of standardised reflectors or beacons/transponders for close proximity DP2 operations.*

*The use of a taut wire system in wind parks is generally not allowed, which creates practical problems to establish DP2 on new structures.*

- **Crew and onshore management experience**

*Those that have influence within the wind industry need to be reminded that DP vessel owners and operators have a vast experience.*

*This is a constant challenge especially following the pandemic, the Ukraine crisis and its effects on global crews and the resultant effects on the oil & gas sector meaning that all areas of the energy sector are busy and therefore crew experience is challenging.*

*We shouldn't be reinventing the wheel - An interesting topic, for sure! How are we going to ensure the competence of the whole industry including crew and fill the skills gap we face to support safe operations if things continue to grow as they are?*

### Summary of the Presentation

The following points sum up the presentation:

- Need for shore management education in DP operations
- Need for support and CPD for key DP personnel
- Need for greater decision support tools and implementation/normalisation of such tools

## 5.3 Decision Support Tools – Dan Endersby, All Offshore Ltd

This was a presentation that discussed the most popular decision support tool the ASOG.

What were we looking for in an ASOG?

- Vessel equipment – installed equipment sufficient and redundant?
- Vessel setup – how is that equipment setup? are there different configurations?
- Vessel performance – will the equipment be able to perform to the rated output upon failure of redundant equipment? Has it all been validated in terms of performance and in terms of failure modes and the effects? Do we have any unknown failure effects where equipment is interconnected?
- Operations – what is the specific activity the vessel is undertaking, and will this have a bearing on the correction selection of position reference sensors etc?

The presenter outlined what was required and how the ASOG can be constructed, and that IMCA M 220 Rev. 2 Jan 2021 provided guidance on the subject.

### Summary of the Presentation

- Predictability - ensure we know how equipment fails and ensure that is operated in a safe way
- Configuration
  - Set equipment to specific configuration (reduce ambiguity)
  - Ensure equipment that must achieve an output can (generator, thrusters, UPS's)
  - Any cross-redundancy connections – impact assessed, validated or mitigated
- Operations
  - Set limits accordingly - limits to align with the configured chosen
  - Change of state of equipment - Know what actions to take on any change of state in that equipment.

## 5.4 Workshop

A workshop was conducted where the audience was split into four groups and each group had to answer one of the following questions:

- 1 Are you comfortable, in your experience and in your current fleets, that decision support tools (ASOF/WSOG) are used effectively?
  - If so, great – please share the best practice!
  - If not, why not?

- 2 Do existing decision support tools (ASOG) remain relevant and useful within an offshore wind farm?
  - Are they adequate, directly applicable, or is there adjustment required?
  - Consider the operational profile for a wind farm compared to traditional DP operations
- 3 Is there room for digitisation and development of decision support, and what implications would this have to current best practice?
  - Consider safety, efficiency, end user experience
- 4 Where does periphery equipment (e.g., walk to work gangway, 3D crane) fit into decision support methodology?
  - Consider operational limits, integration with ship systems, contingencies and redundancy

Answers were reported out after a 20-minute deliberation and were as follows:

- 1 Yes – ASOGs were being used however:
  - Some elements of the document were too open to interpretation and were subjective
  - Guidance for shoreside operational staff is required
  - IMCA guidance was required specifically for ASOG in wind farms
- 2 Yes - They were relevant however:
  - In wind fields – 500m zone was not applicable
  - Speed versus safety could be an issue
  - Education – shoreside operations need to be a part of and understand the production of an ASOG, plus training onboard.
  - Crew must be part of the ASOG development
  - IMCA guidance was required specifically for ASOG in wind farms
- 3 There was a place for digitisation – there were existing systems - but it was not a necessity, however:
  - How integrated should it be?
  - Expense of digital system verses conventional system
  - Are the stakeholders as involved when developing a digital solution?
  - Management of change – could be a challenge for digital solution
- 4 Peripheral Equipment inclusion into the ASOG required the following:
  - Technical specification limits needed to be known – these could be OEM dependant
  - Time to terminate was essential
  - Power consumption and effect on power grid.
  - Possible footprint of industrial equipment -stroke limits etc.
  - Input values/errors into DP control system
  - Visual of mission equipment from DP control Station
  - IMCA guidance required specifically for ASOG in wind farms

### Summary of the Workshop

In summary it was clear that IMCA needed to look at developing specific guidance for ASOG development and implementation for energy farm use.

## 6 Session 6 – Ask the Industry panel featuring DP Specialists

Hosted by Mark Ford, IMCA



The panellists for this session were:

- Aleks Karlsen, DNV
- Jennifer McCaul, Scottish Power
- Joey Fisher, M3 Marine
- John Lloyd, Nautical Institute
- Steve Myers, North Star Renewables

Q1. – How much autonomy will come into play within the industry moving forward?

Ans. 1 – It will become more prevalent; we are already seeing it in survey work and in future we are likely to see it in the search and rescue area where there is a company that is specifically developing in this area. There is already automation in gangway operations, but we are not at the stage where we are seeing a reduction in personnel due to autonomy.

Ans. 2 – Slow development, DNV is advanced in the development of rules and guidelines to help industry stay safe. DNV are paying close attention to this. There are no specific acceptance rules yet developed.

Q2. – Do you see the NI ever requiring a refresher course for revalidation of DPO certificates?

Ans.1 – At present revalidation is only on time served, and when we look at the DP Incidents and the skills fade it shouldn't be difficult to think that we shouldn't have some sort of formal professional development for the revalidation process, be it a refresher course and/or a CPD Scheme. This will almost certainly come into play within the next 12 months.

Q3. – Can we use the DP accreditation onboard to get acceptance from class without the need for a class surveyor to attend.

Ans.1 – No, this is not acceptable at this time to offset the class surveyor using the IMCA DP accreditation.

Q4. – DP assurance for the wind industry is not very strict; would the panel like to comment?

Ans.1 – Scottish Power have their own set of mariners that will carry out their own DP assurance but acknowledges that there are other organisations less stringent with the process.

Ans.2 – Say they employ similar processes above; however, it is noted that a lot of the operational staff operating the wind farms are not from a maritime background and therefore will not have the tools to be able to carry out a deep DP assurance as understanding of DP in general is lacking. As the industry matures, we will see improvements and many issues have been highlighted at this conference that will feed back into industry.

Q5. – Will there be a scope creep towards a practitioner scheme in order to write the FMEA?

Ans.1 – Writing an FMEA is a multidisciplinary process which requires certain expertise depending on scope, such as closed bus-tie knowledge and cross connections etc. At this time, it would be too

difficult to put such a scheme together, however it is possible that one or more of the FMEA development team would be an IMCA accredited DP practitioner.

Q6. – Will CPD become mandatory for key DP personnel in the future?

Ans.1 – YES!

Q7.- Please can you explain a little about the NI competency scheme for engineers – as there can be a skills gap with the technical staff.

Ans.1 – NI wanted to provide a structured framework in which they could look at the principles of why a DP vessel is different from a normal vessel and contains a technical aspect and an operational aspect to give the onboard technical staff an appreciation of the workings of a modern DP vessel. minimum of 28 days onboard. It is not system specific, that is the responsibility of the OEM.

Q8. – Does IMCA receive feedback from the organisations reporting their DP events, and does IMCA feedback to them?

Ans.1 – Yes- It is possible for a company to request their data, and IMCA will start a dialog with the reporter if trends can be spotted.

Q9. – Will IMCA DP accreditation be applicable for class surveyors – often the class surveyors are not fully knowledgeable about DP systems.

Ans.1 – There is inhouse training given to DNV surveyors, could be a useful tool to show clients that they are knowledgeable of the DP systems. It is acknowledged that there is a varying skill level within the pool of surveyors.

Q10. – With skills shortages in the industry there is a big gap in knowledge on the technical side when personnel transfer from conventional vessels to specialised DP vessels, how can this gap be addressed?

Ans.1 – There is a course in place for new technical staff to be formally inducted in order to qualify for the DPVM Certificate.

**Final Question** – As oil & gas fades, is there room for skills transfer to the renewable industry?

Ans.1 – Yes, absolutely, there is massive scope in leveraging the oil & gas skills and knowledge base.

The session concluded with Mark Ford thanking the panel of DP specialists for their participation.



# 7 Session 7 – DP Annual Trials and Assurance

Chaired by Steven Cargill, DNV

- Scene setting
- Panel session and Q&A
  - Aleks Karlsen, DNV – Committee Member
  - Joey Fisher, M3 Marine Group Pte Ltd – Committee Member
  - Dan Endersby, All Offshore Ltd
  - Pawel Panka, TechnipFMC – Chair, MDMC
  - Graeme Lorensen, Subsea 7 – Committee Member
  - Peter Solvang, DP & Marine Assurance Norway AS



There was a case for action with the development of annual trials and were the two points below related?

- There had been a notable increase in the number of DP incidents reported to IMCA
- There had been a corresponding increase in the number of vessels performing incremental DP annual trials

The previous IMCA conference held in Den Haag in 2018 canvassed the audience on the subject of incremental trials (trials not attended or witnessed by a third-party auditor onboard).

Several themes were identified:

- The competence of the crew to execute the trials
- The willingness of crews to report category A findings
- Pressure to miscategorise findings

The following question was posed to the audience:

Is it reasonable to expect that the integrity of DP annual trials, performed by the crew, should be of equal (or better) integrity to those witnessed by an IMCA accredited DP trials practitioner?

**The majority of the audience acknowledged that there should be equivalence.**

The following questions were posed to the panel and the audience:

- Should some part of the DP vessel's crew be subject to IMCA accreditation?
- Should third parties who reviewed the results sent by the crew on the vessel owner's behalf be subject to IMCA accreditation?
- Should there be defined criteria to determine whether a vessel, its DP system and its crew are suitable for performing trials without an independent witness?
- What level/type of training should the crew receive and who should provide it?
- Who should develop the incremental annual DP trials programmes – given that they may require additional functions and features?
- Should all test records be in digital data format or were photographs and screenshots/alarm printout acceptable?

## 5 Was manually recorded data acceptable?

No oil majors were present at this session; however, they were asked the questions via e-mail and three responded as per below:

### Energy Company A

- Opportunity to leverage technology to improve remote verification
- Decision to permit incremental trials based on industrial mission risk – dictated DP assurance process
- No objection to crew conducting trials provided:
  - Confidence in crew ability to execute trials competently
  - Test programme identifies information and method
  - Robust process to identify and close findings
  - Shore based management competency
  - Data centricity
- Digital data preferred (understand limitations of some vessels) – minimise use of photographs
- Multiple sources – triangulation

### Energy Company B

- Default third-party witness IMCA or equivalent
- Remote witnessing – practical limitations
- Embed OCIMF processes
- Other trials execution methods by application only
- Concerns over crew ability
- Pressure on crew
- Concerns over data quality - practicality – storage – accessibility - burden
- Third-party practitioner report much easier for vessel vetting process – short of time

### Energy Company C

- Annual trials as defined by IMCA was default
- Incremental (crew performed trials) accepted for MODUs only
- Limited confidence in existing trials practitioners – variability too high – even within the same organisation
- Concern related to crew ability to correctly categorise findings
- May or may not be pressure on crew
- Crew training – must understand test objectives and the link to the redundancy concept of the vessel and the elements of performance protection and detection
- Data centricity- as defined by OCIMF – digital data preferred – achievable on MODUs, limited use of photographs
- Would welcome improved IMCA guidance on incremental trials with reference data centric methods – remove verification, etc

There was a need to provide guidance on the following:

- How to create trials programmes for execution by the crew without independent witness?
- How to perform trials?
- How to validate trials?

- How to determine if a vessel, its DP system, and its crew have the necessary functions, features and competence to successfully execute a high integrity DP annual trials programme?

## Summary of the Session

A poll was conducted asking the audience if it was reasonable to expect the same level of integrity of DP annual trials, performed by the crew, should be of equal (or better) integrity to those witnessed by an IMCA accredited DP trials practitioner? The answer was a resounding **yes**, we should expect the same level of integrity.

It was the apparent consensus of the panel and the audience that the high end digitally/data driven platforms available in the market were not a significant concern to the integrity of the annual trials programme and these platforms are and would be adopted by operators that could afford this level of integration and training for the long-term gain.

However, there was an issue with operators that could not afford to fully digitise their vessels in order to get reliable data to validate and verify the testing programme. It was also apparent that a fully digital/data driven approach would not necessarily cut the cost of annual trials rather it would allow flexibility to the operator. Therefore, many operators may be best placed to continue with surveyor attended annual trials which would be more acceptable for the DP assurance process, as many of the vessels would not have the level of system integration that would allow for upgrades for data capture.

Expecting the crew to fully conduct a traditional trials programme that require photographs, written statements and screen dumps would not convince the stakeholders that the trials programme had achieved its objective. There was an issue of the varying skills levels onboard vessels and the level of training that would need to be provided at the cost of the operator in order to have confidence in the test results. The burden on the crew needed to be considered when developing such a programme.

Scrutiny was also put on the persons assessing the results of a remotely conducted trials programme. Should these persons as a minimum have gained the IMCA DP practitioners trials accreditation and demonstrate proficiency in the use of the software used to record the trials? A course provided by the software providers may be a pre-requisite, this was also discussed for those onboard conducting the tests.



## 8 Event Summary

This was IMCA's first DP Conference for some years, involving many hours of planning and logistical organisation by the secretariat. The event was a success, with attendee feedback being extremely positive and engagement throughout the event being excellent. The programme for the next DP conference (9-10 May 2023) will be developed based on this feedback. IMCA would like to thank the sponsors and the delegates for their contributions and support.

The event was closed by Stephen Peet, who thanked all parties for their contributions and summarised some of the key items that had been highlighted by the conference:

- The data IMCA has received on DP events shows that the industry is becoming less safe. Members are encouraged to submit details of events to increase the data that is being analysed
- There is a need to increase the number of individuals going through the DP accreditation process
- The development of shallow water guidelines is required and IMCA will focus on this
- A review of the proposed objectives for the DP committee will be conducted based on the feedback from the members.



## Thank you

To view more images and social media feedback [click here](#)

### **Influence the future of DP**

Key outputs from our 2022 DP Conference are shaping the future of our industry – join us at our DP Conference on **9-10 May 2023** to be part of the journey.

To learn more about IMCA's work around dynamic positioning, please visit our website:  
[www.imca-int.com](http://www.imca-int.com)

To report a DP event or to find out more please contact us at [dpreports@imca-int.com](mailto:dpreports@imca-int.com)



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