eCMID and eMISW Findings Analysis

IMCA has analysed over 2,100 vessel inspection reports uploaded into the eCMID database at www.imcaecmid.com and produced the following summary of key findings.

The eCMID system enables vessel operators to review and address these findings and to add commentary on corrective actions and other feedback. This is then provided for clients and potential clients to review as part of the downloadable inspection report.

By highlighting frequent findings, we can enable vessel operators and inspectors to address common issues. These can also be useful to IMCA's committees as they identify priority topics for future work and guidance.

The question sets were fully refreshed in October 2018 (published as eCMID Issue 11 and eMISW Issue 4) using this data to help eliminate low value questions and ensure a focus on critical safety elements as new sections (covering cybersecurity, the Maritime Labour Convention and DP vessel reactivation) were introduced. Since then, there has been some minor editorial changes primarily to the guidance and references contained within the individual questions resulting in the publication of eCMID issue 11.1 and eMISW4.1 in April 2020, and the ability to undertake a further findings analysis.

1   eCMID – Common Marine Inspection Document (IMCA M 149, Issue 11)

The original eCMID format is intended for comprehensive inspections of vessels over 500grt or 24m in length.

The top ten findings, each arising in more than 10% of over 1100 inspections, were as follows:

♦ **Ship and Cyber Security** – Does the vessel have a cyber security management system and/or a cyber security plan?

   Note: 7 of the top 10 questions from the analysis relate to cyber security so for the purposes of this analysis, they have been grouped together. 40% of all eCMID inspections undertaken answered the above question negatively.

   The Maritime Safety Committee, in June 2017, adopted Resolution MSC.428(98) – Maritime Cyber Risk Management in Safety Management Systems. The resolution encourages administrations to ensure that cyber risks are appropriately addressed in existing safety management systems (as defined in the ISM Code) no later than the first annual verification of the company's Document of Compliance after 1 January 2021.

♦ **Certification and Publications** – Is the vessel clear of conditions of class and any safety related memoranda? (16% of inspections)

♦ **Mooring, Towing and Lifting Equipment** – Does the company have a lifting equipment management system in place? (15% of inspections)

♦ **HSE** – Are procedures for control, stowage and handling of chemicals and flammable/combustible materials in place and being consistently applied? (11.5% of inspections)

♦ **HSE** – Does the vessel have a systematic approach to dropped object prevention in place? (11% of inspections)

♦ **Machinery Space** – Is there evidence that safe working practices are being consistently applied to machinery spaces? (11% of inspections)

♦ **HSE** – Is risk assessment training provided to personnel on board? (11% of inspections)

♦ **Machinery Space** – Are all machinery spaces clean and free from obvious leaks? (10% of inspections)

♦ **HSE** – Is entry into enclosed spaces controlled? (10% of inspections)

♦ **General Appearance** – Are there arrangements in place to address the general condition, visual appearance, and cleanliness of the weather decks? (10% of inspections)

1.1 eCMID Supplements

The eCMID format includes a number of supplements which are selected for relevant vessel types and operations. The top findings for each supplement with 10% or higher findings as a percentage of the number of times the supplement has been used is as follows:

♦ **Dynamic Positioning**
   – Does the vessel have a copy of the most recent DP trials report on-board? (12% of inspections)
   – Do the key DP personnel take part in on-board training and drills involving various DP scenarios? (10% of inspections)

♦ **Anchor Handling Vessels (AHVs)**
   – Are the maximum acceptable vertical and horizontal transverse forces defined and posted? (19% of inspections)
   – Are there records held on-board which confirm that winch operators have been formally trained? (15% of inspections)
   – Are the anchor handling winches appropriately certified? (10% of inspections)

♦ **Offshore Supply Vessels**
   – Are there documented procedures for the sampling and analysis of cargo tank contents? (10% of inspections)

♦ **LNG OSVs**
   – Does the crew hold a flag state recognised liquefied gas tanker training programme certificate and have they undergone shipboard gas related basic safety training? (100% of inspections)
   – Have the crew members with direct responsibility for the operation of gas related equipment received special training? (100% of inspections)
   – Are the LNG bunkering station drip trays thermally insulated and fitted with a drain valve to enable rainwater to be drained over the ship's side? (100% of inspections)
   Note: this supplement is used very infrequently in comparison with all other supplements.

♦ **Standby Vessels (SBVs) (Emergency Response Rescue Vessels (ERRV))**
   – Are all means of recovering survivors/casualties in good order? (10% of inspections)

♦ **Survey Vessels (including offshore seismic survey)**
   – Is there a Man Overboard Alarm system fitted and operational on the slipway/streaming/back deck? (11% of inspections)

♦ **Diving Support Vessels**
   – Is there safe access available around the diving system? (16% of inspections)
   – Has a Diving Equipment System Inspection Guidance Note (DESIGN) document been completed by an independent third-party within the past 12 months? (16% of inspections)
   – Are there dive system operating and emergency procedures available? (11% of inspections)

♦ **Pipe Lay and Cable Lay Vessels**
   – Is there an FMEA to cover the pipelay system? (20% of inspections)

♦ **Autonomous Underwater Vehicle (AUV) and Remote Operated Vehicles (ROV)**
   – Has the ROV spread been subject to an independent audit under Standard ROV audit document (IMCA R 006) or a similar scheme? (17% of inspections)

♦ **Helicopter Operations**
   – Is the helideck appropriately certified and approved? (13% of inspections)

- ♦ **Accommodation Vessels**
  - – Is there an FMEA to cover the gangway system? (11% of inspections)
  - – Is there a fixed fire alarm and sprinkler system fitted in the accommodation areas? (11% of inspections)
- ♦ **Jack-up Vessels**
  - – Have the longitudinal and transverse inclinometers a valid calibration certificate? (16% of inspections)
- ♦ **Heavy Lift Vessels**
  - – Is there an FMEA to cover the ballast and bilge system? (16% of inspections)
- ♦ **Oil Recovery Vessels**
  - – Can the relevant personnel show that they have been trained in oil recovery operations? (28% of inspections)
  - – If fitted, is the oil recovery equipment such as booms, skimmers, etc. included in the vessels planned maintenance system? (17% of inspections)
  - – Is recovery equipment tested in regular exercises? (17% of inspections)
- ♦ **Barges (Non-self-propelled)**

  Barge inspections represent the highest count of question findings as a percentage of number of times the supplement has been used. Of the 10 questions within the supplement, 9 have findings on over 10% of inspections. Three of those findings being over 20%:
  - – Is the main towing bridle including chains/wires/shackles/Smit brackets and recovery winch certificated and in satisfactory condition? (31% of inspections)
  - – Is the emergency towing bridle including chains/wires/shackles/Smit brackets and pick up rope certificated and in a satisfactory condition? (26% of inspections)
  - – Are the hull fendering arrangements in a satisfactory condition? (20% of inspections)
- ♦ **Gravel Discharge, Dredgers and Trenching**
  - – Does the vessel have a copy of the Class Approved Cargo Operations Manual on-board? (11% of inspections)
- ♦ **Vessel Reactivation from Lay-up**
  - – Have sea trials including, where appropriate, DP trials been carried out? (33% of inspections)
  - – Have all statutory flag state surveys been completed, and certification issued? (22% of inspections)

  5 further questions were answered negatively during 11% of inspections.

2 eMISW – Common Marine Inspection Document (eCMID) for Small Workboats (IMCA M 189, Issue 3)

This inspection format targets smaller workboat, which are not required to comply with the International Safety Management (ISM) or the International Ship and Port Facility Security (ISPS) codes, although the principles outlined within the two codes are worth following.

The top findings, each arising in more than 10% of just over 1000 inspections, were as follows:

- ♦ **Ship and Cyber Security** – Does the vessel have a cyber security management system and/or a cyber security plan?

  Note: Similarly to the eCMID, 6 of the top 10 questions from the analysis relate to cyber security so for the purposes of this analysis, they have been grouped together. 32% of all eMISW inspections undertaken answered the above question negatively.

- ♦ **Navigation Equipment** – Are approved, current, corrected charts available? (13% of inspections)
- ♦ **Machinery and Electrical** – Are the bilges empty and free from oil residue? (13% of inspections)
- ♦ **Machinery and Electrical** – Is the engine room free from untreated hazards? (13% of inspections)

- ♦ **Machinery and electrical** – Does the vessel have a planned maintenance system in place covering critical equipment and spares? (11% of inspections)
- ♦ **Accommodation** – Are there potable water testing routines that include legionella testing? (11% of inspections)
- ♦ **Lifesaving Appliances** – Are the number and type of life buoys as required and are they in satisfactory condition? (11% of inspections)

The eMISW format also includes a number of supplements. The top findings for each supplement with 10% or higher findings as a percentage of the number of times the supplement has been used is as follows:

- ♦ **Dynamic Positioning**
  - – Is the DP maintenance log up to date? (27% of inspections)
  - – Do the DP operators have the appropriate DP qualification? (27% of inspections)
  - – Does the vessel have a DP operations manual on-board? (18% of inspections)
- ♦ **Towing**
  - – Does the master have a tug certificate of competence or a towage endorsement? (15% of inspections)
  - – Is the towing equipment certified? (13% of inspections)
  - – Is there a towing operations manual and does it reference vessel stability? (12% of inspections)
- ♦ **Diving**
  - – Does the vessel have emergency procedures for diver decompression illness? (10% of inspections)
- ♦ **Barges (Non-self-propelled)**
  - – Is the main towing bridle including chains/wires/shackles/Smit brackets and recovery winch certificated and in satisfactory condition? (40% of inspections)
  - – Is emergency towing apparatus/equipment certificated and in a satisfactory condition? (40% of inspections)
  - – Is towing gear included in a planned maintenance system? (20% of inspections)
  - – Are the vessels handrails adequate to prevent personnel falling overboard? (20% of inspections)
  - – Is there a suitable arrangement for anchoring the vessel if needed? (20% of inspections)

3   Summary of Conclusions

This analysis is a clear validation of the importance of inspections for the industry – the eCMID and eMISW has unquestionable value to the industry and the industry can learn a lot from the findings presented.

Within the eCMID analysis, Health, Safety and Environmental based question findings seem high given the maturity of the subjects – dropped objects, control of chemicals, risk assessment training, confined space entry.

The eMISW analysis shows Machinery and Electrical findings are more frequent than any other categories.

Cyber security is a significant subject requiring fast action ahead of early 2021 Cyber security management systems or plans were absent from approximately 772 of over 2,100 vessels inspected in total.

The analysis highlights specific areas where information campaigns may be warranted in the future and information will be passed to the respective IMCA committees for appropriate action.

The data from this analysis will input to ongoing work of the IMCA eCMID committee to drive quality, consistency of inspections and improving the knowledge of the AVI community and those in receipt of the inspection.