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Agenda item 9.1

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Review of amendments to the PAWSA methodology   
by the US Coast Guard (USCG)

# Summary

The PAWSA (Port and Waterway Safety Assessment) methodology was originally developed and subsequently modified by the US Coastguard. PAWSA MK II is a recommended tool within the IALA Risk Management Toolbox. PAWSA was developed to improve stakeholder communication and understanding of navigational risks and to facilitate better coordination between the government and private sectors.

At ARM 18, it was agreed that the World-Wide Academy would attend a PAWSA in Tampa, Florida, at the kind invitation of the US Coastguard, to observe the current implementation of a revised version of the PAWSA method, subsequently referred to as PAWSA Mk III, to report back to the Committee on:

* similarities and differences between the MK II and MK III versions; and
* any recommendations for maintenance, modification or replacement of PAWSA MK II.

The WWA subsequently attended the workshop in May this year, and this paper and the accompanying full report provide feedback on their attendance. It should be noted that there was no evidence of a PAWSA MKIII “manual” or other published documents explaining the method development. All descriptions of the similarities and differences have been undertaken through observation and discussion with the US Coastguard Navigation Center team.

## Purpose of the document

This document proposes a discussion topic for the ARM Committee Working Group 3 (WG3) regarding recent modifications to the PAWSA methodology by the USCG to assess whether these changes, embodied in PAWSA MK III, necessitate an update to the IALA PAWSA MK II method.

The Committee is requested to review this input paper alongside the attached “PAWSA MK III Workshop Report – Port of Tampa 15–16 May 2024,” which:

* Provides an overview of the practical arrangements and procedures implemented by the USCG during the Port of Tampa PAWSA workshop.
* Details the PAWSA MK III process, including pre-and post-workshop activities.
* Compares the characteristics of PAWSA MK II and MK III.
* Assesses the implications for the current IALA PAWSA MK II tool and offers recommendations for both short-term and long-term actions.
* Describes facilitation techniques, the workshop data-gathering tools and how the workshop survey information was transformed into a prioritised list of actions.

It is noted that Nick Neeley of the USCG is also conducting an analysis and comparison of the respective PAWSA methods. Nick may also submit an input paper to ARM 19 that describes his independent observations. It is anticipated that this input paper will be discussed collectively with any additional perspective provided by Nick as a part of the Task for Working Group 3.

## Related documents

PAWSA MK III Workshop Report – Port of Tampa 15 – 16 May 2024.

# Background

PAWSA MK II is a recommended risk assessment tool within the IALA Risk Assessment Toolbox. This tool stems from the development of the methodology and the associated tools by the USCG. Further information on the PAWSA MK II methodology can be found in the IALA Guideline G1124 and [website](https://www.iala-aism.org/technical/risk-analysis-and-management/risk-management-tools/qualitative-risk-management-tool-pawsa/), and information on the history of PAWSA development can be found on [the USCG website](https://www.navcen.uscg.gov/ports-and-waterways-safety-assessment).

PAWSA MK II includes techniques such as the Delphi method, expertise weighting, separate consideration of consequences for each Waterway Risk Factor (WRF), fostering effective stakeholder engagement and risk assessment. The recently developed PAWSA MK III introduces several changes:

* Fewer identifiable Delphi method characteristics
* Removal of expertise weighting
* Integration of the consequences WRFs into the other 16 individual WRFs.
* Application of theoretical anonymity for participant views throughout the process

The WWA understands that these modifications were implemented to streamline the assessment process and enhance the accuracy and objectivity of risk evaluations. The “PAWSA Mk III Workshop Report—Port of Tampa 15-16 May 2024” compares PAWSA MK II and MK III, and a summary is presented in the discussion below.

# Discussion

Based on the IALA WWA team’s attendance at a single PAWSA Mk III workshop, the following key observations were made:

* The PAWSA MK III process still retains many fundamental features of MK II. The main differences include a lack of expertise weighting, incorporating consequences for every WRF rather than as separate WRFs, and the theoretical anonymity of participants’ views at all process stages.
* Anonymity is a key characteristic of the Delphi method. The absence of participant anonymity and, therefore, the Delphi method in part or fully does not render the PAWSA MK III process an ineffective navigational risk management tool. It is erroneous to suggest that the PAWSA MK III process is an example of the whole Delphi method when specific steps are not anonymous.
* For the PAWSA MK III methodology, the Excel workbook and its macros used to process and analyse the survey data provided by the workshop participants are more flexible and customisable than the rigid equations built into each cell of PAWSA MK II. This flexibility allows for easier adaptation and modification of the workbook to suit specific assessment needs.
* It would be useful to explore further how the survey authors felt the answer to question 4 regarding current risk, “We could benefit by accepting more risk here”, would be evidenced. How did they anticipate participants being able to give an evidence-based answer to this question?
* Emphasis has shifted more towards discussion rather than the process itself. Workshop facilitators highlighted this shift as a key reason for developing PAWSA MK III. According to one participant, the previous (2003) PAWSA process was primarily perceived as a form-filling exercise rather than a platform for meaningful discussion and debate. The PAWSA MK III workshop participants' opinions were captured and expressed in the report in real-time, based on iterative discussions and report refinement. This ensured contemporaneous records and emphasis on stakeholder involvement and influence of the final product.
* The use of digital entry of participant responses is an extremely useful replacement for the PAWSA MKII paper forms, irrespective of more fundamental changes to the method. It increases the time for discussion rather than administration and reduces the risk of user input errors.

The Tampa PAWSA report also makes the following recommendations:

* In the short to medium term IALA continues to promote the PAWSA MKII tool as the primary PAWSA tool and this is reflected in the Risk Management Toolbox course.
* The WWA should investigate the digitalisation of the PAWSA MK MK II process to replace manual entry of information captured on paper forms. For example, the use of MS Forms to auto populate the existing Excel workbook.
* The WWA should attempt to obtain a fully populated version of the PAWSA MKIII workbook to understand the implications of the arithmetical changes to the main algorithm of the PAWSA methodology.
* The WWA should liaise with Nick Neeley, USCG to understand his perspective on the differences and respective benefits of the PAWSA MKII and MK III methods respectively and liaise during ARM in Q3 2024.
* Further discussions should also aim to provide an initial indication of the value of the PAWSA MKIII methodology either as:
  + A replacement for the PAWSA MKII method.
  + An additional tool for inclusion in the IALA Risk Management Toolbox (PAWSA “Lite” or similar)
  + Inappropriate for inclusion within the IALA Risk Management Toolbox.

# References

1. IALA. (2022) Guideline G1024 The Use of Ports and Waterways Safety Assessment (PAWSA Mk II)
2. IALA. (2024) Risk Analysis and Management  
   <https://www.iala-aism.org/technical/risk-analysis-and-management/risk-management-tools/qualitative-risk-management-tool-pawsa/> accessed 29/08/2024
3. IALA. (2024) PAWSA MK III Workshop report – Port of Tampa 15 – 16 May 2024.
4. USCG. Ports and Waterways Safety Assessment (PAWSA)  
   https://www.navcen.uscg.gov/ports-and-waterways-safety-assessment accessed 29/08/2024

# Action requested of the Committee

The Committee is requested to review the observations and recommendations of the WWA report (in conjunction with other relevant reports), assess whether sufficient information exists to facilitate an update of PAWSA MK II and, if so, what those updates should be.