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| IALA Guideline |

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The use of ports and waterways safety assessment (pawsa)

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Revisions to this IALA Document are to be noted in the table prior to the issue of a revised document.

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# INTRODUCTION

Regulation 13 of Chapter V of the 1974 SOLAS Convention (as amended) states that “each Contracting Government undertakes to provide, as it deems practical and necessary either individually or in co-operation with other Contracting Governments, such aids to navigation as the volume of traffic justifies and the degree of risk requires”.

The assessment and management of risk is therefore fundamental to the provision of effective aids to navigation (AtoN)[[1]](#footnote-1). To address this, IALA published Recommendation O-134 on IALA Risk Management Tool for Ports and Restricted Waterways for use by National Members. One method of risk management identified in Recommendation O-134 was the use of the quantative Ports and Waterways Safety Assessment (PAWSA) tool developed by the United States Coast Guard. [Note 1]

At its 88th session in late 2010, the Maritime Safety Committee of the International Maritime Organization (IMO) approved the circulation of Recommendation O-134 to its Member Governments[[2]](#footnote-2). This endorsement by the IMO underscored the importance of formal risk management. This Guideline aims to provide specific guidance on the use of PAWSA so that all IMO Member Governments can use this proven risk management tool where appropriate to meet their obligations under SOLAS.

# BACKGROUND

The United States Coast Guard (USCG) developed PAWSA in the late 1990’s to assess the requirement for the use of Vessel Traffic Services and other AtoN. By 2010, over 40 ports and waterways had been assessed successfully using PAWSA. According to the official PAWSA Workshop Guide, the ultimate goal of PAWSA “is not only to establish a baseline of waterways for VTS consideration, but to provide the local host and waterway community with an effective tool to evaluate risk and work toward long term solutions tailored to local circumstances. The goal is to find solutions that are both cost effective and meet the needs of waterway users and stakeholders”.

To assist the conduct of a PAWSA workshop, the USCG published the *Ports and Waterways Safety Assessment Workshop Guide* which provided guidance and procedures required for conducting a PAWSA. The Guide was organized into seven sequential chapters with supporting appendices that introduced the PAWSA process before describing the methodology; pre-workshop logistics requirements; participant selection; workshop preparation; session facilitation and post-workshop reporting.

## revised pawsa workshop guide

In 2014, The Director General of Coastal Safety (DGCS) in Turkey used the PAWSA Workshop Guide produced by the USCG to analyse risk in a Turkish waterway. This successful assessment led DGCS to prepare an updated version of the Workshop Guide. This Implementation Guide, based principally on the USCG version, is at Annex A to this Guideline[[3]](#footnote-3). The supporting 19 Annexes to the Implementation Guide (equivalent to the appendices in the USCG Workshop Guide) have not been updated and remain as published by the USCG. These are available for download from the IALA website.

[Notes 2 and 3]

# PURPOSE

The purpose of this document is to provide guidance on PAWSA’s systematic approach to the identification of major waterway safety hazards; the estimate of levels of risk and the evaluation of potential risk mitigation measures so that selected measures can be implemented to reduce such risk.

# overview of pawsa

PAWSA provides an accurate assessment of risk in a defined waterway by means of a structured two-day workshop. It is undertaken by carrying out a subjective assessment of the probable risk in that waterway based on the experience of teams of maritime experts and other stakeholders under the supervision of a Facilitator.

The theoretical concept underlying the PAWSA process is the proven systematic decision making “Delphi” method of converting the opinions of experts with local knowledge into quantified results. The experts complete a series of tasks set out in MS Excel™-based Workbooks. After each stage, the Facilitator provides a summary of the experts’ decisions from the previous stage as well as the reasons for these decisions. The experts are therefore encouraged to revise their earlier answers based on the replies of other members of their team. This will ideally reduce the range of the answers so the team will converge towards the "correct" answer. The “Delphi” method used in PAWSA is based on the principle that decisions from a structured group of individuals are more accurate than those from unstructured groups.

The output from PAWSA indicates whether the **existing** risk in a waterway is:

* **Acceptable** and that no further work is needed unless changes occur in significant criteria, such as the traffic pattern or types of vessels using that waterway;
* **Not Acceptable** but the risk control options necessary to make the risk level of the waterway acceptable have been identified adequately;
* **Not acceptable** and more detailed study is necessary to enable the risk control options that will make the risk level of the waterway acceptable to be identified adequately.

# factors affecting the delivery of pawsa

The successful outcome of any PAWSA workshop hinges on the Facilitator. This person has been defined as “an individual who enables groups and organizations to work more effectively; to collaborate and achieve [synergy](https://en.wikipedia.org/wiki/Synergy). He or she is a 'content neutral' party who by not taking sides or expressing or advocating a point of view during the meeting, can advocate for fair, open, and inclusive procedures to accomplish the group's work”[[4]](#footnote-4).

The delivery of a successful PAWSA depends critically upon considerable pre-Workshop planning. This process is set out in Annex A Chapters 3 - 5. It should be clear that PAWSA can therefore only be delivered successfully if the following are available:

1. Sufficient participants comprised of maritime experts and stakeholders[[5]](#footnote-5)
2. A competent Facilitator [[6]](#footnote-6)
3. A dedicated administration team
4. Detailed records of maritime traffic; cargoes and maritime casualties
5. Official nautical charts and publications based, where possible, on modern surveys
6. Meteorological records
7. Details of proposed or planned maritime projects in or near the waterway to be assessed
8. Details of any IWRAP risk assessments or analysis of simulations conducted in or near the waterway to be assessed

The amount of preparation effort required for the successful delivery of PAWSA should not be underestimated. If the resources listed above are not available, then the Contracting Government, or its delegated Authority, should contact IALA for alternative methods to analyze and manage risk in its waters.

# summary

PAWSA is one of the proven IMO-endorsed tools which Contracting Governments to the SOLAS Convention are invited to consider when conducting risk management in their waters. It uses quantative data generated by teams of maritime experts and other stakeholders to determine whether an existing risk is acceptable; whether the implementation of an identified risk control option would make that risk acceptable or whether more study is required.

PAWSA requires considerable pre-planning; a competent Facilitator and a sufficient resource of maritime experts.

The systematic Implementation Guide at Annex A should enable existing and potential users of PAWSA to use this powerful tool successfully.

# REFERENCES

## Applicable IALA Guidelines and Recommendations

* Recommendation O-134 on IALA Risk Management Tool for Ports and Restricted Waterways
* Guideline 1018 on Risk Management
* IMO SN.1/Circ.296 dated 7 December 2010

[Note 5]

[insert Implementation Guide]

1. The overarching guidance on risk management is contained in IALA Guideline 1018 [↑](#footnote-ref-1)
2. IMO SN.1/Circ.296 dated 7 December 2010. In addition to Recommendation O-134, the Annex to the Circular made particular mention of Recommendation O-138 on the Use of GIS and Simulation by Aids to Navigation Authorities; Guideline 1057 on the use of GIS by Aids to Navigation Authorities and Guideline 1058 on the use of Simulation as a Tool for Waterway design and Aids to Navigation Planning [↑](#footnote-ref-2)
3. The United States Coast Guard, the copyright holders of the Excel™ Workbooks and PAWSA Workshop Guide, graciously confirmed that it has no objection to the publication of the Directorate General of Coastguard Safety’s amended Implementation Guide nor its use by other IALA member States [↑](#footnote-ref-3)
4. Michael Doyle, quoted in Kaner, et al., 2007, p. xiii [↑](#footnote-ref-4)
5. See Annex A Chapter 4. Participants should ideally comprise 60% waterway users and 40% stakeholders [↑](#footnote-ref-5)
6. See Annex A Chapter 3 which includes a list of competencies that a Facilitator should posses [↑](#footnote-ref-6)