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MEPC.1/Circ.409/Rev.3  
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## SHIP/PORT INTERFACE

### Availability of tug assistance

1 The Facilitation Committee at its thirtieth session (27 to 31 January 2003), the Maritime Safety Committee at its seventy-seventh session (28 May to 6 June 2003) and the Marine Environment Protection Committee at its forty-ninth session (14 to 18 July 2003), recognizing the importance of the provision of adequate tug assistance in ports for ensuring maritime and port safety, the protection of the marine environment and the facilitation of maritime traffic, approved the issuance of this circular to assist port authorities and port operators in assessing the adequacy of the tug services in their ports.

2 The annex to this circular, which contains a detailed list of the contents of the fourth edition of the publication "Tug Use in Port – A Practical Guide",<sup>\*</sup> provides guidance for conducting such an assessment. At present this publication is only available in English.

3 Member States are invited to bring this circular to the attention of administrations, port authorities, port operators, pilot organizations and tug services.

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\* The publication (ISBN 978-90-83124-34-6) can be obtained from:

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## **ANNEX**

### **LIST OF CONTENTS OF THE PUBLICATION "TUG USE IN PORT – A PRACTICAL GUIDE" INCLUDING PORTS, PORT APPROACHES AND OFFSHORE TERMINALS**

**Foreword**  
**Author's preface**  
**Acknowledgements**  
**Glossary of terms**  
**Tug use in port: the overview**

#### **CHAPTER 1: TUG DESIGN FACTORS**

- 1.1 Differences in tug design and assisting methods
- 1.2 Factors influencing tug type and tug assistance
- 1.3 Types of tug
- 1.4 Assisting methods
- 1.5 Conclusion

#### **CHAPTER 2: TYPES OF HARBOUR TUG**

##### **Part A: Classification of tugs and operational design aspects**

- 2.1 Classification of basic harbour tug types
- 2.2 Important general requirements for good tug performance

##### **Part B: Basic tug types**

- 2.3 Conventional types of tug
- 2.4 Combi-Tugs
- 2.5 Tractor tugs with cycloidal propellers
- 2.6 Tractor tugs with azimuth propellers
- 2.7 Reverse-tractor tugs
- 2.8 Japanese tug concept
- 2.9 Azimuth Stern Drive (ASD) tugs
- 2.10 Uni-lever system

##### **Part C: Related tug types**

- 2.11 Rotortug
- 2.12 Z-tech tug
- 2.13 RSD tug
- 2.14 Carrousel tug (including All-Rounder)
- 2.15 DOT tug

#### **Part D: FAST tug types**

- 2.16 Introduction
- 2.17 SDM (Ship Docking Modules)
- 2.18 EDDY
- 2.19 Carrousel RAVE Tug (CRT)
- 2.20 Giano tug

#### **Part E: Specific Tugs. Research. Performance**

- 2.21 Tugs handling LNG carriers. LNG terminal tugs
- 2.22 Eco-tugs
- 2.23 Ice tugs
- 2.24 Research
- 2.25 Tug performance

### **CHAPTER 3: ASSISTING METHODS**

- 3.1 Introduction
- 3.2 Assisting methods
- 3.3 Tug assistance in ice
- 3.4 Assisting Navy Ships

### **CHAPTER 4: TUG CAPABILITIES AND LIMITATIONS**

- 4.1 Introduction
- 4.2 Basic principles and definitions
- 4.3 Capabilities and limitations

- 4.4 Design consequences
- 4.5 Environmental limits for tug operations
- 4.6 Conclusions regarding tug types
- 4.7 Some other practical aspects

#### **CHAPTER 5: BOLLARD PULL REQUIRED**

- 5.1 Introduction
- 5.2 Factors influencing total bollard pull required
- 5.3 Bollard pull required

#### **CHAPTER 6: INTERACTION AND TUG SAFETY**

- 6.1 Introduction
- 6.2 Interaction and shallow water effects
- 6.3 Tug safety
- 6.4 Summary and conclusions
- 6.5 Finally

#### **CHAPTER 7: TOWING EQUIPMENT**

- 7.1 Introduction
- 7.2 Additional towing points and gob ropes
- 7.3 Towing bits, hooks and winches
- 7.4 Towline Safety Systems
- 7.5 Towlines
- 7.6 Towline handling
- 7.7 SWL ships' towing equipment
- 7.8 Requirements for emergency towing equipment, escorting and pull-back
- 7.9 New emergency towing concept

## **CHAPTER 8: TRAINING AND TUG SIMULATION**

- 8.1 Reasons for training
- 8.2 Various training objectives and tools
- 8.3 How specific training courses can be given
- 8.4 Assessment of further training needs
- 8.5 Developments
- 8.6 Conclusion

## **CHAPTER 9: ESCORT TUGS**

- 9.1 The background to escorting
- 9.2 Studies on escort requirements
- 9.3 Developments in escorting
- 9.4 Escorting objectives and tug placement
- 9.5 Escorting by normal harbour tugs
- 9.6 Escorting by purpose built tugs
- 9.7 Escort tug regulations
- 9.8 Concluding remarks

## **CHAPTER 10: TUG DEVELOPMENTS**

- 10.1 Special developments in the design of tugs
- 10.2 Autonomous tugs
- 10.3 Developments in general

## **CHAPTER 11: BALANCING SAFETY**

- 11.1 Introduction
- 11.2 Safety
- 11.3 Risks
- 11.4 Safety Management Systems
- 11.5 To summarize

## **REFERENCES**

## **APPENDICES**

- Appendix 1: Guidelines for Owners/Operators on Preparing Emergency Towing Procedures
- Appendix 2: Safety when handling tugs
- Appendix 3: Stability Rules – Escort Tugs
- Appendix 4: Standard Guide for Escort Vessel Evaluation and Selection
- Appendix 5: Beaufort wind force scale, probable wave heights and sea state description
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