



The World Association for Waterborne Transport Infrastructure Maritime Navigation Commission - MarCom

Association Mondiale pour des Infrastructures de Transport Maritimes et Fluviales Commission de la Navigation Maritime - MarCom

MarCom Annual Report 2015

1. General Programme

In 2015, MarCom continued working towards the goals identified in the Action Plan 2014- 2018. The most significant goal is "Improve professional production of MARCOM Working Groups and Expert Group Reports". MarCom also started a review of existing WG Reports in order to define topics that need an update by new Working Groups.

MarCom addressed significant efforts to the progress of all ongoing Working Groups, with good results.

In 2015, MarCom paid special attention to those WGs that have been active for too long, with a successful outcome in several cases. Two relevant Working Group Reports were published. In addition to this, a reviewed version of WG 144 Report "Classification of Soils and Rocks for the Maritime Dredging Process" was forwarded to HQ for publication, integrating comments from readers. The draft report had been published by PIANC inviting comments with a deadline last June 15th. The WG then reviewed the comments and integrated them into the definitive text where appropriate. This is an innovative approach to completing a WG report and could be valuable for some future WGs.

Port planning is a special focus of attention for MarCom. In order to continue the task started by WG 158-2014 "*Masterplans for Existing Ports*", Terms of Reference were approved for WG 187 "*Site Selection and Planning for New Ports and Specialist Marine Terminals on Greenfield Sites – Technical Guidelines*" and the WG will start work early in 2016.

A new Working Group on Dry Bulk Terminals also continues the ongoing series on Port Terminals.

Meetings

In 2015, MarCom organised two Commission meetings:

- Antwerp and Brussels, February 3rd and 4th, with a technical visit to the Deurganckdok Lock in the Port of Antwerp shortly before being filled, hosted by the Belgian National Section.
- Oslo (Norway), September 28th and 29th, hosted by the Norwegian National Section. The meeting included a technical visit to several facilities in the Port of Oslo.

MarCom membership

In 2015 many changes took place regarding MarCom membership.

Mrs. Noelia González Patiño (Alternate Member from Spain) replaced Mr. Santiago Povedano (YP from Spain) as MarCom Secretary. MarCom wishes to thank Mr. Povedano for his efforts during his short period as MarCom Secretary. He will continue in the Spanish representation as a Young Professional.

Mr. Dan Allen (USA) left MarCom after many years, and the Commission wants also to thank him for his work in the Commission for a really long time. In addition, the alternate member from the USA, Mr. Vahan Tanal was replaced. Mr. Ron Heffron as Member, Mr. Richard Styles as Alternate Member and Mr. Christopher Thomas as Young Professional, form the new representation of the USA National Section.

Mr. Olivier Piet replaced Mr. Dominique Etienne as representative of the National Section of France. MarCom wants to thank Dominique Etienne for his efforts in MarCom.

The National Section of Argentina designated an Alternate Member, Mr. Marcelo Peyregne, what shows a deeper commitment of our colleagues from Argentina in MarCom.

YPCOM designated an observer in MarCom, Mr. José Antonio Aldunate from Chile. This means more presence of the American Continent in MarCom.

Professor IKSoon Cho replaced Dr. Teak-Hee Han as Member of the National Section of Korea.

At present, there are 35 MarCom members, amongst them one is chairman, one represents IAPH, six are alternate members and five are Young Professionals. 22 National Sections are represented in MarCom.

The evolution in 2015 shows a significant increase in the presence of Young Professionals in MarCom.

2. Presentations

2.1 February meeting

Mr. Hirotsugu Mori, Secretary of Working Group WG 145 "Berthing velocities and fender design", presented the outcomes of the Working Group to MarCom. The Report includes a significant research on real berthing manoeuvres with the aid of tugboats and a deep analysis addressed to the design of fender systems. The Working Group will recommend topics for update of WG 33 Report on Fender Design.

Working Group WG 165 Chairman Mr. John Knapton and Secretary Mr. Danny Lesage presented to MarCom the final draft report on "Design and Maintenance of Container Terminal Pavements", finally published in 2015.

Professor Hans Burcharth, MarCom member and Chairman of WG 57, and Holger Schüttrumpf briefly presented the status of the Working Group on "Criteria for the Selection of Breakwater Types".

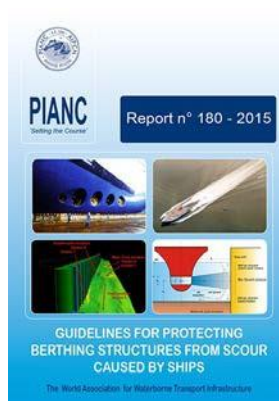
2.2 September meeting

Professor Hans Burcharth, MarCom member and Chairman of WG 57 "Criteria for the Selection of Breakwater Types" presented the Draft Report to MarCom.

Professor Odd Gjorv presented the draft Report of Working Group WG 162 "Recommendations for increased durability and service life of marine concrete infrastructure".

3. Publications

In 2015, two MarCom Working Group Reports were published by PIANC.



- *WG 165-2015 "Design and Maintenance of Container Terminal Pavements"* (Chairman Mr. John Knapton).

The report addresses one of the most relevant factors that influence the operational performance and cost of Container terminals. Heavy loads and operation of container handling equipment as well as container storage concentrated loads make pavement design for container terminals a very specialized discipline within the field of pavements.

The Report addresses container terminal operations related to pavements, container storage loads, handling equipment and trucks operations and loads, drainage, geotechnical engineering topics and materials. Finally, the Report reviews existing design guides and addresses the calculation methods. There is a special chapter dedicated to application to countries in transition.

- *WG 180-2015 "Guidelines for protecting berthing structures from scour caused by ships"* (Chairman Mr. Marc Sas)

The Report addresses the topical problem of protection of harbour structures from scour. The effect of increasing power of ships on propellers causes higher flux velocities and more scouring capacity. In addition, the use of bow, stern and rotatable thrusters with growing size and engine power increases the capabilities to cause damage by scour.

The WG Report analyses berthing structures from the point of view of vulnerability to scour, propulsion systems, operational procedures, velocity distributions caused by propellers and other elements, damage and failure mechanisms and design of scour protections for structures and sea bed, including new materials and technologies. The report updates several parts of WG 22-1997 "Guidelines for the Design of Armoured Slopes under Open Piled Quay Walls" although does not supersede it completely.

4. Progress of MarCom Working Groups

The summary of the status of ongoing MarCom Working Groups is addressed in this section.

WG 47 Criteria for the Selection of Breakwater Types

There is a final draft report that is being adapted for publication.

WG 145 Berthing Velocities and Fender Design

The Report will be published in 2016.

WG 152 Guidelines for Cruise Terminals

The Working Group is making good progress and publication is expected for 2016.

WG 153 Recommendations for the Design of Marine Oil Terminals

Publication is expected for 2016.

WG 159 Renewable and Energy Efficiency for Maritime Ports

The Draft Report will be available in 2016 and publication is expected for end 2016 or 2017.

WG 161 Interactions between Offshore Windfarms and Maritime Navigation

The Draft Report will be available in 2016 and publication is expected for 2017.

WG 162 Recommendations for increased durability and service life of marine concrete infrastructure

Publication is expected for 2016.

WG 164 Upgrade of Port Terminals by increasing dredged depth

A new call for members has been distributed to National Sections.

WG 167 Design of combined terminals for Ro-Ro and Ro-Pax vessels

The Working Group started activity in 2014. The Working Group agreed overall content and format. Progress is adequate.

WG 171 Ship Handling Simulation dedicated to Channel and Harbour Design

The kick-off meeting took place in 2014 and the Working Group progresses on Schedule.

WG 172 Design of Small and Medium LNG Terminals including bunkering facilities

The kick-off meeting took place in 2014 and a second draft will be presented to MarCom I February 2016.

5. Approved Terms of Reference

Four new Terms of Reference were approved in 2015:

- WG 184 "Design Principles for Dry Bulk Marine Terminals". This Working Group continues the ongoing series on port terminals.
- WG 185 "Site Selection and Planning for New Ports and Specialist Marine Terminals on Greenfield sites – Technical Guidelines". This Working Group completes the topic of Port Planning started by WG 158 "Masterplans for Existing Ports", by addressing the site selection topics.
- WG 186 "Mooring of Large Ships at Quay Walls". The Working Group will address mooring after other WG dedicated to fender related topics. The proximity of the bollards to the quay edge requires that the ropes adopt angles that significantly increase mooring forces.
- WG 187 "Protection of Undersea Pipelines and Cables in Navigable Areas". Marine Windfarms require many new underwater cables and pipes, in addition to those required by other uses. Protection of these pipes and cables needs to be specifically addressed.

These Working Groups were formed in 2015 and will have their kick-off meetings in 2016.

6. Cooperation with other Commissions

MarCom has correspondent Members in the following joint or other Commission's Working Groups:

- EnviCom "Working with nature"
- EnviCom Permanent Task Group on Climate Change
- MarCom also participated in the Juries of the De Paepe Willems Award.

7. Participation in other PIANC activities

MarCom Chairman represented PIANC HQ in the First Congress of the National Section of Colombia, held in Cartagena de Indias in 2-3 September pronouncing the "Salute of PIANC International and summary of priorities in the Western Hemisphere" plus a presentation on MarCom and an additional technical presentation.

The National Section of Colombia organized also a "Panel on Coastal Erosion" last 18 November. MarCom Chairman intervened by Video Conference.

8. Award

In May, 2015, MarCom was awarded Planning Prize of the Ports and Harbours Association of Japan, with authors of Tsunami Report, for propagating overseas lessons from the 3.11 tsunami disaster, through publication of PIANC no.122-2014 report and seminars held in Tokyo and San Francisco. The diploma was received by MarCom member from Japan Yoshiaki Higuchi. MarCom acknowledges the Ports and Harbours Association of Japan for its recognition.

9. MarCom Technical Visits

9.1 Deurganckdok Lock

MarCom visited Deurganckdok Lock in the Port of Antwerp on February the 3rd, and celebrated in the site offices the first part of the February meeting.

The rolling gate lock with "L" shaped reinforced concrete walls is the biggest on earth with a length of 500 m, a width of 68 m and a water depth of 18 m. The timing was excellent because the lock was flooded few months later.

MarCom wants to thank Luc Van Damme as organizer of the visit, PIANC Belgium National Section (C. Vandevoorde and ir. H. Smitz), the Flemish Administration (ir. W. De Cock and ir. F. Aerts), the Joint venture Waaslandsluis (ir. E. Beyts and ir. B. Desutter) and all persons that intervened in hosting the MarCom visit and dinner.



View of the locks



MarCom during the visit



MarCom meeting

9.2 Port of Oslo

- On Tuesday 29 September MarCom performed the technical visit to the Port of Oslo. MarCom visited: Colorline Terminal, with an innovative Shore Power solution focused on the reduction of emissions of the ships while moored in Port.
- New Yilport AS container terminal at Sjørsøya, presented by the Technical Director in Port of Oslo Svein Olav Lunde. MarCom members visited the terminal in detail, and the new electric driven RTGs.
- New container quay at Sjørsøya, presented by ALTi bygg og anlegg AS Director Lars Gunnar Andersen.

After the visit, entrepreneur ALTi bygg og anlegg AS hosted MarCom lunch before depart.

MarCom wishes to thank PIANC Norway, very specially Tore Lundestad, the Port Authority of Oslo, Yilport AS Container terminal, ALTi bygg og anlegg AS and all those persons that made possible our meeting.



Visit to the New Yilport AS container terminal at Sjursøya



MarCom lunch in Oslo

Annex 1.- List of Members of MarCom – December 2015

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