

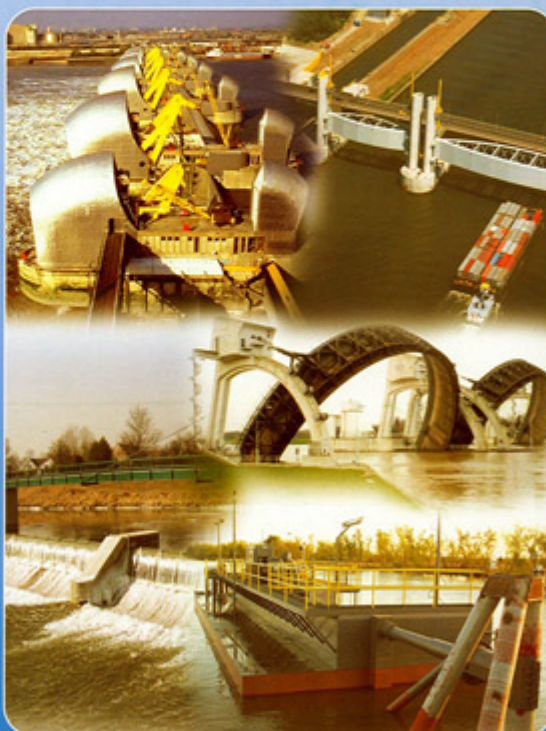


PIANC

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Report of WG 26 – January 2006

**Design of
Movable
Weirs
and
Storm
Surge
Barriers**



INTERNATIONAL NAVIGATION ASSOCIATION

- 1. INTRODUCTION**
 - 1.1 Aims of the WG-26
 - 1.2 WG 26's cd-rom
 - 1.3 List of Project Reviews
- 2. GATES OF MOVABLE WEIRS AND BARRIERS**
 - 2.1 Project Reviews
 - 2.2 Terminology Review
- 3. DESIGN PROCEDURE**
 - 3.1 Site Parameters
 - 3.2 Required Information for Concept Development and the Structure Design
 - 3.3 Applied Forces
 - 3.4 Navigation Requirements
 - 3.5 Operational Requirements
 - 3.6 Preliminary Design of a structure type

- 3.7 Reliability and Service life
 - 4. MULTI-CRITERIA ASSESSMENT**
 - 4.1 Necessity of a multi-criteria assessment
 - 4.2 Some historical background
 - 4.3 Method of qualitative assessment
 - 4.4 Methods of quantitative assessment
 - 4.5 Other gate assessment methods
 - 4.6 Concluding remarks
 - 5. DESIGN CONSIDERATIONS (Parameters and Criteria)**
 - 5.1 Structural Considerations
 - 5.2 Hydraulic and Flow
 - 5.3 Foundation and Civil Engineering
 - 5.4 Control, Operation and Maintenance
 - 5.5 Temporary Closure Arrangements
 - 5.6 Safety, Reliability and Risks
 - 5.7 Environmental Impacts and Aesthetics
 - 5.8 Cost (Construction, Maintenance and Operation)
 - 6. DESIGN AND ASSESSMENT TOOLS**
 - 6.1 Types of Tools required by engineers/companies/experts (based on the survey)
 - 7. PREFABRICATION TECHNIQUES**
 - 7.1 Description
 - 7.2 Evaluation of Alternatives
 - 7.3 Shell Construction
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 - 8. CODES, RULES AND STANDARDS**
 - 8.1 Application of New Standards to Hydraulic Structures
 - 8.2 Selected codes of practice, rules, standards and guidelines with reference to the WG26's subjects
 - 9. CONCLUSIONS & RECOMMENDATIONS**
 - 10. REFERENCES**
 - 10.1 Web Sites
- APPENDIX A: NUMERICAL TOOLS FOR WEIR AND BARRIER DESIGN**
- APPENDIX B: WG26's SPONSORS**

WG-26's cd-rom

- About 50 project reviews of movable weirs and storm surge barriers (Directory A1)
- WG-26 report (PDF full version), (Directory A2)
- Sponsor company references (Directory A3)
- Various additional information about Sections 3, 4, 5, 6, 7 and 8 of this report (See Directory Annex Section #)
- Various technical guidelines (Directories B):
 - B1: PIANC's "Illustrated Technical Dictionary"
 - B2: Guidelines: "Design of Mobile and Marine Metallic Structures" & "ROSA 2000"
 - B3: Movable Weirs (Guide du Chef de projet -France)
 - B4: Inflatable Weirs (Germany)
 - B5: Maintenance bulkhead types and Temporary and Demountable Flood Protection
 - B6: Examples of rehabilitation Weirs
 - B7: Flood Protection in UK
 - B8: Environmentally Considerate Lubricants
- WG-26 meeting pictures, (Directory C)