



# THE NEWSLETTER OF THE U.S. SECTION, PIANC

Permanent International Association of Navigation Congresses

Spring 1998

## Inside this issue:

New U.S. Section Treasurer .....	3
Water Injection Dredges .....	6
Marine Transportation Review .....	7
29th International Navigation Congress .....	8
Germany Seeks Cargo Shift to Waterways .....	9

## In each issue:

Activities .....	13
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## NOTES FROM THE SECRETARY

- The **ASCE/PIANC PORTS '98 CONFERENCE** attracted over 1000 attendees to Long Beach, California, March 8-11, 1998. The success of the meeting is the result of cooperation between the ASCE, the association's Ports and Harbors Committee, and the U.S. Section of PIANC. Co-hosted by the Port of Los Angeles and the Port of Long Beach, the 1998 conference is the eighth in the ports series, which was initiated in 1977 in Long Beach. Co-sponsorship with the U.S. Section of PIANC dates back to the 1992 conference, which was held in Seattle, Washington. The association has proven to be very beneficial for both organizations and our constituent

members. A broad range of national and international issues related to port engineering, waterfront facilities planning and navigation improvements were included in 40 technical sessions and the 148 technical papers presented during the three-day event. **Dr. John H. Zirschky**, Chairman of the U.S. Section, opened the conference with **Mr. James E. Davis**, Executive Director of ASCE. **Major General Russell L. Fuhrman**, President of the U.S. Section, presided at the conference luncheon on March 9th. As Master of Ceremonies, **MG Fuhrman** presented the U.S. Section Gustave Willems Award for 1998 to **Mr. Lloyd M. Coakley**, a Civil Engineer at the St. Louis District, for a paper entitled, ***R.A.P.I.D. Engineering, Design and Management on the Mississippi River***. (See photograph on page 5.) **Mr. Charles Van Begin**, **Secretary-General of the International Navigation Association (PIANC)**, attended PORTS '98 and spoke at the luncheon. The **Port of Los Angeles** and the **Port of Long Beach** jointly presented the U.S. Army Corps of Engineers a special award for 100 years of service to the ports. A photograph of officials

involved in the presentation appears on page 5 of this newsletter.

- The final announcement and registration forms for the **29th International Navigation Congress** are available from the Office of the U.S. Section of PIANC. Please make plans to attend the Congress in The Hague, The Netherlands, 6-11 September 1998. Take advantage of the lower registration fee by sending in your forms prior to 25 August. After that date, the fee increases.
- An Individual Technical Paper submitted by **Dr. Dennis P. Robinson and Dr. Harry J. Kelejian** has been accepted by the international jury for presentation at the 29th Navigation Congress in The Hague (see article on page 7). One of eight Individual Papers designated for presentation in this new category, this is the only paper accepted that was submitted by an author from the United States. A list of the titles and authors of the National Papers was printed in the Summer 1997 issue of the Newsletter.
- **Handling and Treatment of Contaminated Dredged Material (CDM) from Ports and Inland Waterways**, the report of Permanent Technical Committee II Working Group 17, has been published as a CD-ROM. This milestone publication is the first PIANC technical report issued in electronic format. The report was completed under the leadership of **Mr. Norman R. Francingues, Jr.**, U. S. Army Engineer Waterways Experiment Station, who also served as chairman of the international working group. The CD-ROM was produced for PIANC International by the U.S. Section and the firm of **Duplication Technology** in

Boulder, Colorado. See page 15 for information about how to order the CD-ROM.

- The **1999 conference of the U.S. Section** will be held in Memphis, Tennessee, May 12-14, 1999. The Port of Memphis Director, **Mr. Don C. McCrory**, will be the host of the meeting. The Technical Program Committee is currently being organized by the Chairman, **Mr. Ron Zimmer** of Sverdrup Civil, Inc. Additional information will be provided in the newsletter as it becomes available. **Mark your calendars now and plan to be in Memphis.**
- **Mr. Charles F. Connors**, a former U.S. National Commissioner (1989 - 1997) and the Co-Principal U.S. Representative to the Permanent Technical Committee II (PTC II), has resigned from the latter position to devote more time to his consulting practice. As Commissioner and the PTC II Co-Representative, Chuck provided valuable service to PIANC.
- Recently, the following U.S. Representatives have been appointed to international working groups:

**Claude N. Strauser** - *Technical and Economic Problems of Channel Icing*

U. S. Army Corps of Engineers District, Saint Louis, ~~Kansas~~ Missouri

**James D. Prehn** - *Monitoring of Breakwaters*

W.F. Baird & Associates, Ltd., Madison, Wisconsin

**Jeffrey F. Gilman** - *Guidelines for the Design of Berm Breakwaters*

Peratrovich, Nottingham & Drage, Inc., Seattle, Washington

**R. Scott Jackson - *Recreational Navigation and Nature***

U. S. Army Waterways Experiment Station, Vicksburg, Mississippi

**Paul Donheffner - *Recreational Navigation and Nature***

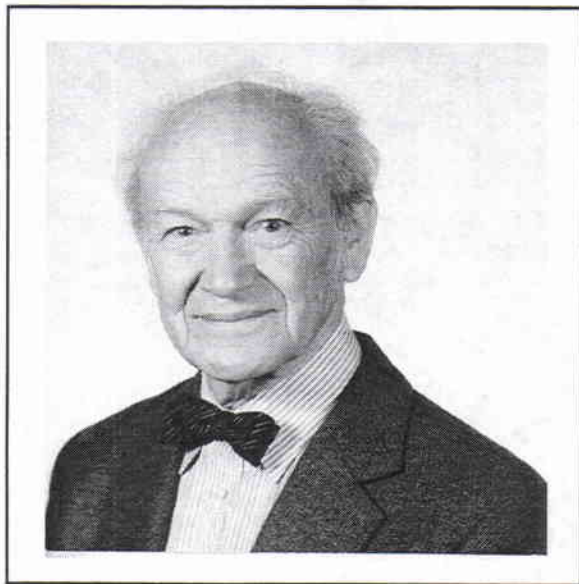
Oregon State Marine Board, Salem, Oregon

**Michael R. Palermo, Ph.D. - *Environmental Guidelines for Marine, Nearshore, and Inland Confined Disposal Facilities (CDF) for Contaminated Dredged Material***

U. S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi

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**McLAREN RETIRES; CARMAN BECOMES NEW TREASURER**



**James R. Carman**

After serving as Treasurer of the not-appropriated fund of the U.S. Section, PIANC, for more than ten years, Mr. Lyle C. McLaren, Jr., resigned. In recognition of his outstanding achievements, he was presented with the Commander's Award for Public Service on April 29, 1998, at the U.S. Section, PIANC Commission meeting by MG Russell L.

Fuhrman. He was also presented with a ship's clock as a token of appreciation for his tireless efforts on behalf of the organization.

Mr. McLaren was the first member-volunteer to fill the position of treasurer following the 1988 reorganization of the U.S. Section. He exercised judicious stewardship and initiated numerous improvements in accounting procedures, resulting in improved management of the not-appropriated fund. At the international level, he served as Vice-Chairman of the Finance Commission, and influenced the adoption of sound management processes. See photographs on next page.

Taking Mr. McLaren's place as the new Treasurer is Captain James R. Carman. Captain Carman has a broad and up-to-date knowledge of port and intermodal developments in the United States. He has been involved in the direction and management of important studies sponsored by the Maritime Administration and continuous activities in planning and research on port matters. Between 1987 and 1995 Captain Carman served as Chief, Division of Port and Intermodal Planning and later as Chief, Division of Ports, Office of Ports and Domestic Shipping in the Maritime Administration. He also has first-hand experience as an executive director in one of the U.S. Great Lakes ports and as agent for shipping lines in Cleveland, Detroit, and other lower lake ports.

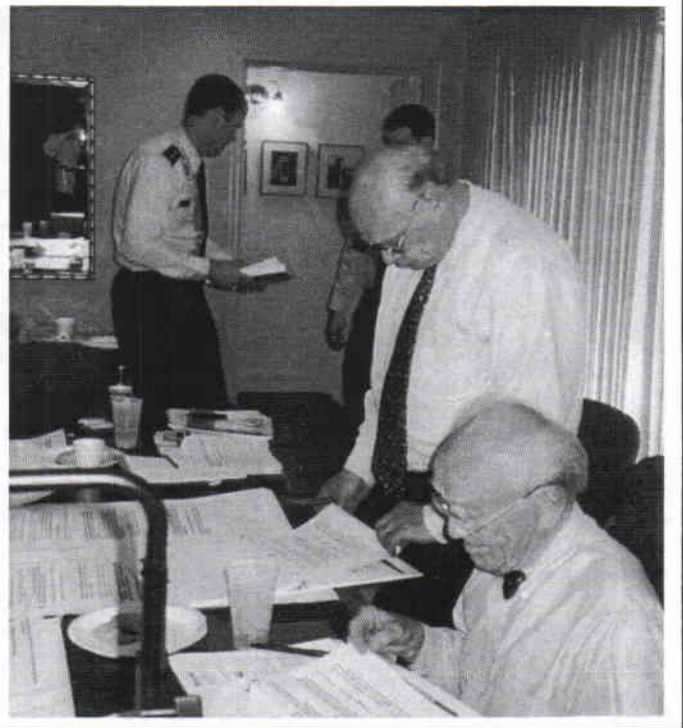
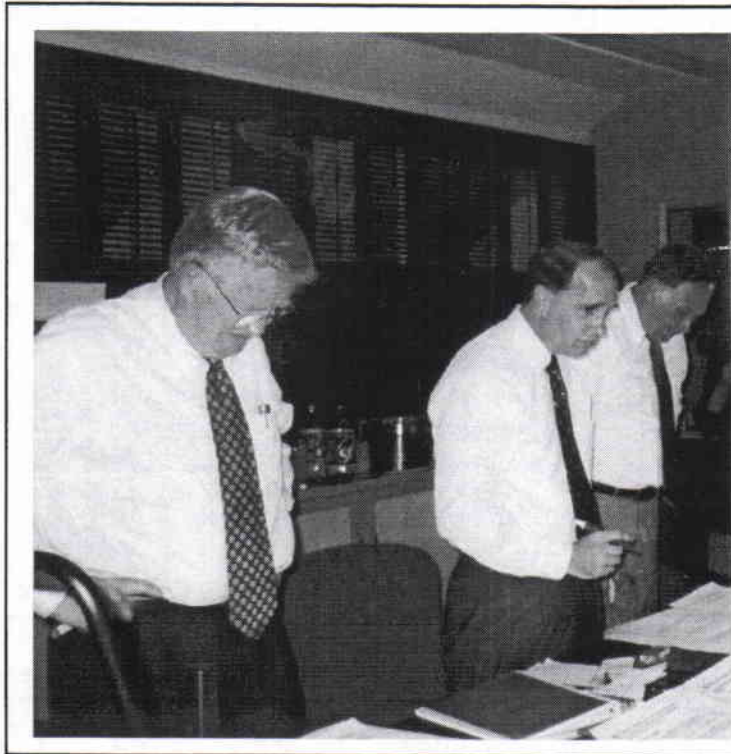
Captain Carman graduated from the Massachusetts Maritime Academy, and later earned a Bachelor's degree in economics from Harvard University and a Master's degree in economics from Cleveland State University.





Commander's Award for Public Service presented to Mr. Lyle C. McLaren, Jr. by Major General Russell L. Fuhrman along with Mrs. Fran McLaren, April 29, 1998.

Mr. & Mrs. McLaren with ship's clock that was presented for his tireless efforts.



Commissioners at Work. Right to left - Mr. Bob Nichol, Mr. Kurt Nagle, Mr. Walt Ritchie, MG Russell L. Fuhrman, Major Mike Teague, Dr. Anatoly Hochstein, and new treasurer, Capt. Jim Carman.



Willems Award Presented to Lloyd M. Coakley at PORTS '98. Left to Right - Mr. Charles Van Begin, Secretary-General, PIANC, Lloyd M. Coakley and Major General Russell L. Fuhrman.



Award Presented to the U.S. Army Corps of Engineers. The Port of Los Angeles and the Port of Long Beach jointly presented an award in recognition of 100 years of service by the Corps to the Ports. Colonel Larry Davis is shown holding the ship's wheel presented to the District by Larry Keller and Richard Steinke. Left to Right - Dr. John H. Zirschky, A/ASA (CW), Larry Keller, Executive Director, Port of Los Angeles, COL Larry Davis, DE, Los Angeles, Richard Steinke, Executive Director, Port of Long Beach, MG Russell L. Fuhrman, Director, CW, BG Richard Capka, DE, South Pacific



*(The following article, which was published in part in the Winter 1997/98 Newsletter, is being reprinted because the concluding paragraphs were inadvertently omitted.)*

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## **INNOVATIVE WATER INJECTION DREDGING TECHNOLOGY USED IN A FIRST FOR NEW ORLEANS HARBOR**

by Edmond J. Russo, Jr.

Originally developed and used in Europe, the Water Injection Dredge (WID) recently entered the United States dredging market. The WID has largely gained work at private dock facilities located on the Mississippi River.

Catching the eye of Corps dredgers, the New Orleans District (NOD) recognized the WID's potential for cost-effective employment along the New Orleans harbor wharves on the River.

Historically dredged by cutterhead dredges on average about two times per year, the New Orleans harbor work represents a relatively large amount of annual dredging work--generally between 1 to 3 million cubic yards of silts and sands. The WID's performance on non-Corps Mississippi River projects made its use practical for this New Orleans harbor work. The recent inclusion of the WID in bidding for New Orleans harbor dredging raised the prospect for saving money on the project.

The movement of the WID-generated slurry out of the dredging area is governed in large part by a density gradient. In general, this means that the heavier-than-water slurry causes an imbalance in static forces between

the slurry and the surrounding water. This results in movement of the slurry away from its original location to a lower elevation in the waterway.

To generate the slurry, the WID uses twin articulated training arms that suspend a horizontal pipe over the dredging location. This pipe is outfitted with a series of nozzles that point towards the channel bottom. The nozzles discharge the water into the shoal material at high volume and low pressure. When this technique is used on a relatively high point along the bottom of the waterway, the slurry seeks a deeper elevation in the waterway. The result at the dredging location is an area cleared of shoal sediments. In general, the finer the sediments, the greater the WID's effect.

The WID uses only a fraction of the equipment and labor necessary by cutterhead dredges to accomplish essentially similar dredging jobs. During implementation, the result is likely to be more cost effective dredging as compared to conventional methods.

NOD included the WID with cutterhead dredges into the bid lots for the fiscal year (FY) 1997 New Orleans harbor leased maintenance dredge solicitation. A previously-developed and tested pay-for-performance (PFP) hourly leased dredge clause was integrated into the specifications to make the WID/cutterhead dredge bidding scenario possible.

With the total low-bid contract price remaining constant, the PFP clauses allow the contractor to be monetarily compensated for dredging time in proportion to the actual rate of dredging performed during that period. The actual payment is adjusted to reflect this

performance, relative to the low bid unit price and prespecified minimum dredge production rate for a pre-defined standard dredging condition. As a result, the dredging project can be completed for an optimal dredging rate and completed in a faster time frame. In other words, the faster a contractor can complete and be paid for a quantity of contract work, the less the number of costly labor and equipment days are likely to be assigned to the initial contract bid. Even more significant, this type of contract allows for multiple-dredge type bidding for the same work.

In February 1996, the first of its kind New Orleans harbor WID/cutterhead dredge contract was to be bid. However, an industry pre-bid protest questioning the multiple-dredge type bidding methodology led to a one-year delay in the opportunity for a possible first use of the WID in the harbor. After several months of litigation, the United States Court of Federal Claims allowed the project bidding to commence.

The NOD proceeded with the contract in the FY 1998 dredging cycle, which caused an increase in bidding competition. This resulted in a low bid price of the WID on the order of about 20% less than the next highest bid prices for the harbor work.

POC is Edmond J. Russo, Jr., (504) 862-1496

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## **MARINE TRANSPORTATION UNDERGOING REVIEW**

In anticipation of a substantial increase in the demand for marine transportation in the next century, Secretary of Transportation Rodney E. Slater has announced efforts to ensure that our waterways and ports are ready

for the challenge. At a meeting held on March 20, 1998, in Washington, D.C., Secretary Slater said that a review of marine transportation would help "develop comprehensive strategies to address the dynamic growth in shipping and serve as a means to improve the nation's waterways, ports, and intermodal connections."

As a first step in this review, federal partners got together with members of the private sector and other interested parties from port maritime, environmental, recreational and fishing organizations. Attendees at this initial meeting for the worldwide management initiative included Steering Committee Members MG Russell L. Fuhrman (U.S. Section, PIANC President), U.S. Army Corps of Engineers; Mr. John Horsley, Associate Deputy Secretary Designate (DOT); Mr. Kenneth Wykle, Federal Highway Administration; and RADM Robert North, U.S. Coast Guard.

Port authorities are currently hosting a series of seven regional listening sessions to hear the views of users and operators and gather information. The object is to see what the nation has to do to get from where we are today to the 21st Century, such as hooking seaports up intermodally. The two-day sessions are taking place in New Orleans, Louisiana; Oakland, California; New York, New York; Cleveland, Ohio; St. Louis, Missouri; Charleston, South Carolina; and Portland, Oregon, from March 31 to May 19. A representative cross section of personnel from the region's ports, terminals, pilots, vessel operators, truckers and others are being selected to present future needs of our marine transportation system to accommodate expansion in international trade.

Secretary Slater will host a national conference in the fall of 1998 in Washington, D.C., to address solutions and explore strategies for key issues identified regionally at the seven listening sessions. The conference will also develop a vision and better approach for delivery of federal services.

For more information, please contact the USCG Waterways Management Directorate at (202) 267-6164 or the MARAD Office of Ports and Domestic Shipping at (202) 366-4357.

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## **PIANC's 29TH INTERNATIONAL NAVIGATION CONGRESS**

The final announcement for the 29th International Navigation Congress, which will be held in The Hague, The Netherlands, September 6-11, 1998, has been distributed. The International Exhibit of Ports and Navigation will take place simultaneously with the Congress.

There will be a series of technical presentations on deep-draft, shallow-draft, recreational navigation, and environmental subjects. Two Sections will run in parallel sessions: Section I, Inland Navigation, and Section II, Maritime Navigation. The technical program for the Congress will include visits to the ports of Amsterdam and Rotterdam, and for the first time, there will be a session devoted to individual papers. In addition, there will be a celebration of the bicentennial of Rijkswaterstaat. This important navigation congress is held every four years, so please plan to attend. For more information, contact Mrs. Robertson, U.S. Section of PIANC, TEL: (703) 428-6286, FAX: (703) 428-8171.

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## **INDIVIDUAL PRESENTATIONS AT 29TH CONGRESS**

There will be eight individual presentations at the 29th International Navigation Congress of PIANC, supplementing the traditional presentations of national papers on deep-draft and shallow-draft subjects.

One of the papers selected was written by Dr. Dennis P. Robinson and Dr. Harry H. Kelejian and is titled, "Returns to Investment in Navigation Infrastructure: An Equilibrium Approach." The authors contend that studies attempting to determine the productivity effects of public infrastructure investments have long overlooked the role that public infrastructure, especially transportation infrastructure, has in the trade and transportation of goods and services and its impact on the technological processes of firms within the economy. Dr. Robinson's and Dr. Lekejian's paper models the effects of navigation infrastructure investment on certain segments of the U.S. economy via the "factor cost/product price" effect logic. The paper estimates the response to investment in navigation infrastructure in terms of a model which accounts for economy-wide systems interactions. The results suggest that investment in navigation capital has a positive effect on the economy.

Harry H. Kelejian received his B.A. degree from Hofstra University and his M.A. and Ph.D. in economics from the University of Wisconsin. He has taught at Princeton and New York Universities and currently is Professor of Economics at the University of Maryland and a former visiting scholar at the Institute for Water Resources under the