



# THE PIANC NEWSLETTER

Permanent International Association of Navigation Congresses

Winter 1995

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## Message from the Secretary

Well, we're off and running into what has every indication of being an exciting New Year. I hope it will be one of the best for all of our members and readers. We, in the U.S. Section, PIANC, will be doing our best to make 1995 one of our best for you.

We'll be starting off with PORTS '95 in Tampa, Florida, from March 12-15, joining the American Society of Civil Engineers (ASCE) for the second time in sponsoring this specialty conference. There has already been a tremendous interest in our program of over 36 panels and 144 speakers. It's our only conference in 1995, so try to attend!

As I write this letter, elections are underway for the second of three U.S. Section, PIANC Regional Vice Presidents. We're all looking forward to enhanced participation on the regional level once they're in place. If you have any ideas concerning regional activities,

please contact the Vice President in your region or drop us a line.

The U.S. Section, PIANC will host the 1995 General Assembly of the Permanent International Commission in New Orleans in May. It has been ten years since the United States hosted this meeting of PIANC Commissioners from around the world. Two newly organized committees, Membership (Chuck Connors, Chairman) and Conferences (John Pisani, Chairman), are considering new ideas in both areas. Let the chairmen hear from you.

The newsletter is now on a firm schedule for a quality publication. Your ideas and articles are invited. We appreciate the time those readers who responded took to answer the survey in the last issue of the newsletter. If you have not returned the survey, please do so. If you've misplaced it, we will be happy to provide another one.

So, let us know what you like and don't like. And don't forget about the PIANC Bulletin. All members are eligible to submit articles for publication to Charles Calhoun, the Chairman of our Publications Committee.

That's it for this time. Have a great 1995, and make PIANC a part of it!

### PORTS '95

**PIANC Get Together**  
Interested in meeting other PIANC members?  
Join us at Ports '95  
No-host Lunch - 13 March 1995  
Time: 12:00 - 1:30 P.M.  
Place: To Be Announced  
POC: Mary Jane Robertson 703-355-0286

The U.S. Section, PIANC Newsletter is published quarterly by the U.S. Section of the Permanent International Association of Navigation Congresses. Send address corrections or other correspondence to Editor, U.S. Section, PIANC, ATTN: CEWRC-ZA, Casey Building, 7701 Telegraph Road, Alexandria, Virginia 22315-3868, or telephone (703) 355-0286. The Newsletter is an independent publication of the U.S. Section, PIANC and does not necessarily represent the views of the Army Corps of Engineers or any other agency of the United States Government.

## Vellinga Gives Sir William Harris Lecture

Dr. Pier Vellinga gave the third PIANC Sir William Harris lecture on December 3, 1994, at the Telford Theatre in London. A representative of the Netherlands government, Dr. Vellinga is known internationally as a leading scientist and policy-maker in the field of global environmental change.

The title of Dr. Vellinga's presentation was "Entering the 21st Century: How Can Society Respond to the Global Environmental Challenge?" He feels that the main environmental issue for the next century will be population growth along with its attendant per capita use of resources. "The more people, the more suffering-- especially in areas with limited resources availability or limited resource management capabilities such as in Africa," he explained.

The real challenge, then, is to increase our capacity to deal with population growth through education and management. Since populations are usually concentrated along the coastal zones, a reduction in wetland loss will figure prominently in sustainable development.

The unwanted side effects of global climate change such as 40 percent more rain and higher runoff and discharges is another problem we will be facing in the near future. Many nations, particularly the small island states, are not capable of adapting to higher sea levels. If climate change and sea level rise could come more gradually or their rate could be predicted, it would be easier to adapt to them.

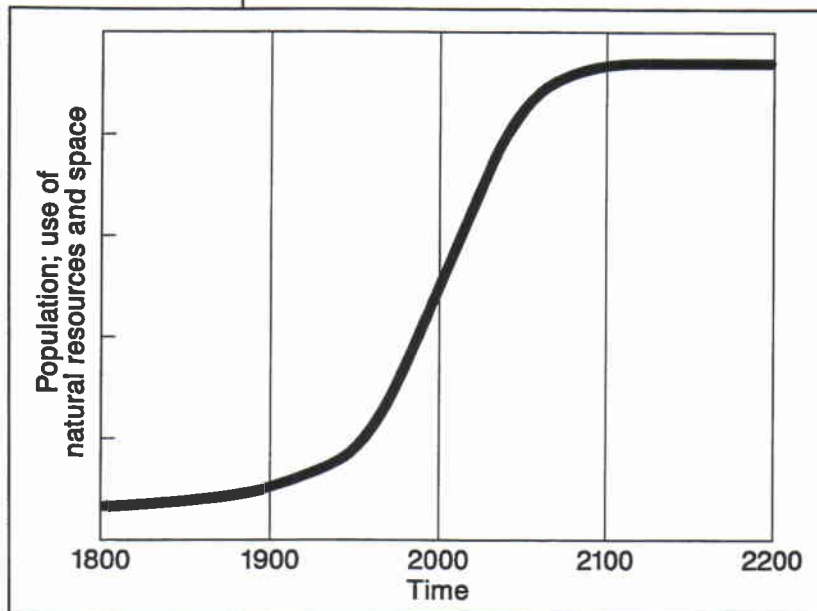
Unfortunately, climate is unpredictable. We need to limit CO<sub>2</sub> emissions and other greenhouse gases. We need to speed up our transition to a

more energy-efficient society and, over time, become a renewable energy society.

Global smog and eutrophication pose yet additional threats to the global environment. So what can we do? We have already shifted our attention from concentrated industrial sources to diffuse environmental pollution from environment to development and quality of life. We have also shifted towards a process-oriented environmental policy.

There is still room for improvement. Dr. Vellinga suggested that resource use per capita can be greatly reduced by increasing the efficiency of resource use and changing our food consumption patterns. Unemployment keeps increasing as we substitute more and more machinery for people--primarily because it is cheaper. In Europe, the cost of labor is even higher because of special taxes on labor. We need to develop a system where scarce environmental goods and services and consumption are taxed--not the labor used to produce them.

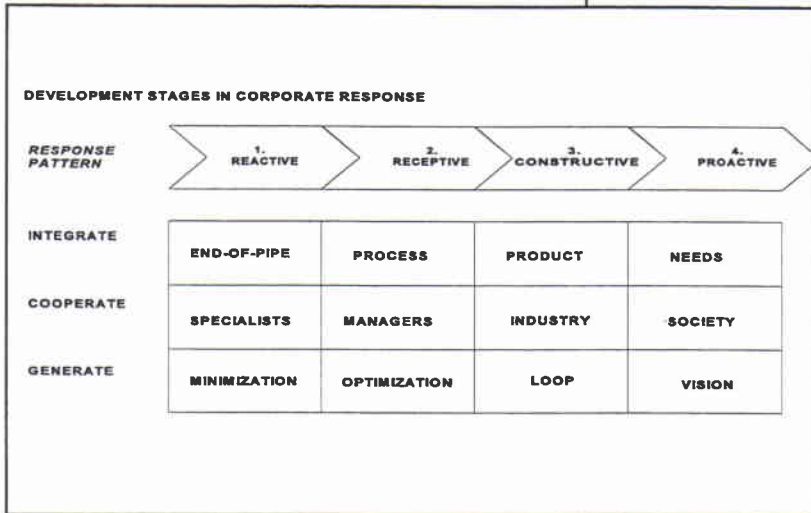
According to Dr. Vellinga, other required changes include urban and rural degradation, better development of third-world countries and



*The S-curve concept for world population, use of resources and space, concentration of CO<sub>2</sub> and tropospheric O<sub>3</sub>, nutrient emissions, loss of biodiversity, etc.*

their natural resources, and aiming research at increasing efficiency and resource use considerably.

How can we make these challenges work? A good way to start is to follow Pieter Winsemius' four-step analysis of how private industry responds to global environmental change: reactive (defensive), receptive, constructive and proactive responses.



*Four phases in corporate response on the environmental challenge (McKinsey, 1993).*

One of the examples Dr. Vellinga cited was the port authorities' response to the environmental aspects of dredging. In the reaction phase, they deny that the dredged material is really contaminated and minimize dredging. In the receptive phase, they want to optimize dredging by defining various classes of pollution. In the construction phase, they strive to recycle the dredged material and separate the contaminants. In the final, proactive phase, they want to reduce contamination at the source and make the producers of the pollution liable.

### GATT to Increase U.S. Agricultural Exports

With the approval of the U.S. House of Representatives and Senate, President Clinton announced the participation of the United States

in the Uruguay Round expansion of the General Agreement on Tariffs and Trade (GATT). The agreement is the product of 7 years of negotiations. It will provide a framework for trade among 124 nations, requiring reduced levels of government support, export subsidies, and import protection.

GATT is projected to increase world income and cause a demand for agricultural products, particularly income-sensitive commodities like meat, fruit, and other specialty crops. Increased consumer demand for beef, pork and poultry will also increase foreign demand for U.S. feed grains and soybeans.

The USDA estimates the increase in U.S. exports, under the Uruguay Round GATT agreement, will range between \$1.6 billion and \$4.7 billion by 2005. In 1993, U.S. agricultural exports totaled \$42.6 billion. Added exports in grains and animal products will make up nearly 75 percent of the increase.

Projected Increases in U.S. Agricultural Exports under GATT* (Million dollars)		
Commodity	Change from Baseline	
	FY 2000	FY 2005
Grains and feeds	490-1,940	1,950-3,910
Cotton	50-290	60-590
Animal products	740-1,660	1,690-2,510
Horticultural products	180-280	200-370
Oilseeds and products	170-530	810-1,330
Total	1,630-4,700	4,710-8,710

\*Valued at point of export  
Source: Effects of the Uruguay Round Agreement on U.S. Agricultural Commodities, March 1994, Economic Research Service, Office of Economics, USDA

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## Interagency Working Group Publishes Report on Dredging Policy

In 1993, while recognizing the important role ports play in our economy, defense and environment, President Clinton acknowledged that the process for dredging and maintaining the Nation's ports sometimes does not work as well as it could. As a result, Secretary of Transportation Federico Pena convened the Interagency Working Group on the Dredging Process to develop a new National Dredging Policy.

Deputy Maritime Administrator Joan Yim chaired the Working Group Steering Committee, made up of 10 individuals from five other Federal agencies including: John Zirschky, Acting Assistant Secretary of the Army for Civil Works, U.S. Army Corps of Engineers; Bob Perciasepe, Administrator for Water, U.S. Environmental Protection Agency; and senior political representatives of the U.S. Department of Interior's Fish and Wildlife Service, and U.S. Department of Commerce's National Marine Fisheries Service and Office of Coastal Resource Management.

The Group's objectives were to promote greater certainty and predictability in the dredging review process and dredged material management and facilitate effective long-term management strategies for dredging and disposal needs at national and local levels.

The Group conducted public outreach meetings around the country. They found that ports and harbors have a strong impact on our country's competitiveness in world trade and national security as well as on our coastal, ocean, and freshwater resources. Based on these findings, they concluded that ports and harbors must be protected, conserved, and restored.

The new Dredging Policy will follow these principles:

- ◆ The regulatory process must be timely, efficient, and predictable, to the maximum extent practicable.
- ◆ Dredged material management must be conducted on a regional basis by a partnership of Federal, state and local governments, natural resource agencies, public interest groups, the maritime industry and private citizens.
- ◆ Dredged material managers must become more involved in watershed planning, recognizing upstream sources of pollution to harbor sediment contamination.
- ◆ Dredged material should be viewed as a resource, which can be used for wetland creation, beach nourishment, and other development projects.

The Group prepared "The Dredging Process In The United States: An Action Plan For Improvement," in December 1994. It contains the Working Groups's recommendations for improvement of the dredging process in the United States, focusing on four problem areas.

In the area of **Strengthening Planning Mechanisms**, the recommendation is to create regional and local dredged material management plans.

To **Enhance Coordination and Communication in the Dredging Project Approval Process**, National and Regional Dredging Issue Teams should be established with emphasis on early identification and resolution of dredging problems.

To address the **Scientific Uncertainties About Dredged Material**, the Action Plan calls for improving the guidance used to evaluate contaminants in dredged material, and identifying the best scientific methodologies for contaminated sediments.

In the final area, the Working Group identifies ways to **Fund Dredging Projects Consistently and Efficiently**. A key point is a revision to the current Water Resources Development Act (WRDA) to allow consistent Federal-local cost sharing of all disposal alternatives of dredged material. The Working Group also endorses user

fees to help pay for the management of ocean disposal sites.

The Working Group's participating agencies are taking steps to implement all 18 recommendations of the Action Plan as soon as possible.

To obtain a copy of the full report, please call the Maritime Administration at (202) 366-1765/5471.

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## Ports Encouraged By Interagency Report on Dredging

Public port authorities welcomed the report of the Interagency Working Group on the Dredging Process. They felt it recognizes the dredging crisis and affirms the Federal agencies' commitment to improve the dredging process at the nation's ports.

The American Association of Port Authorities (AAPA) has long been an advocate of adopting an official national dredging policy. AAPA applauds the recommendations to establish such a policy and to adopt policy and legislative changes which provide for Federal cost-sharing of upland and confined dredged material disposal.

According to AAPA President Erik Stromberg, "The report is an important, even critical, step toward establishing a more responsive regulatory system and provides for a more efficient national transportation system. Although the report's

recommendations won't solve all of the nation's dredging problems, it focuses on a number of solutions that should assist the ports and the environment."

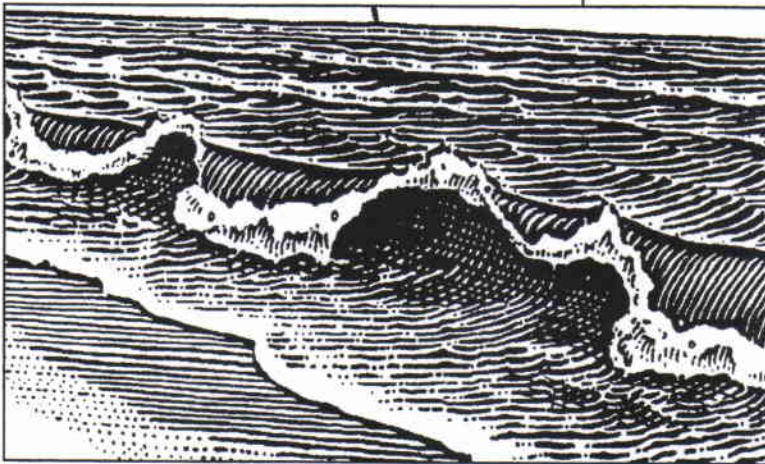
Stromberg added, "These are practical and implementable solutions that AAPA has sought to bring to the attention of the public and policy makers for years. While the ports stand to gain with the implementation of this report, the real beneficiaries of solving the dredging crisis are America's consumers who can purchase imports at lower costs and businesses seeking export opportunities."

Stromberg concluded, "While AAPA does not endorse every recommendation in the report, and much work lies ahead to ensure that Federal agencies implement the recommendations properly to reduce delays in dredging projects, we believe the report represents a very important step in the right direction."

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## Mixed Reactions to Dredging Policy Report

"The Dredging Process In The United States: An Action Plan For Improvement," prepared by the Interagency Working Group on the Dredging Process, appears to establish a tone of cooperation among the interest groups involved in channel maintenance projects. Nevertheless, representatives of maritime interests voiced disappointment with the report at a recent meeting of the New York Harbor Operations Committee. They believe it lacks clear directives and offers no potential solutions to the disposal problems encountered in coastal communities.



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## Profile of a PIANC Founder

### *James Clark Sanford*

Born in 1859 in Palmyra, New York, James Clark Sanford graduated second in his class from the United States Military Academy at West Point in 1884. He immediately began serving in the Corps of Engineers and would continue this service for 42 years.

During that time, he proved to be a major contributor to the development of the suction dredge. For many years, he supervised the construction of sea-going, self-propelled dredges which operated throughout the United States from Pensacola Harbor to the Delaware River to Passes of the Mississippi and Galveston Harbor.

COL Sanford supported the work of the Permanent International Association of Navigation Congresses from its inception. He felt PIANC could gather valuable information on projects such as those performed by the U.S. Army Corps of Engineers. Once Congress recognized PIANC officially in 1904, COL Sanford was made the disbursing officer for funds allotted by Congress. He held this office for close to 20 years as he traveled from post to post.

COL Sanford also represented the United States at many business meetings of the Commission and Council and served as a delegate from the United States to several Congresses. Because of him, the United States had greater representation than it was entitled to on a strictly per capita basis. One of his most memorable successes was at the 12th PIANC Congress in 1912, held in Philadelphia, where he was the General Secretary.

From 1912 to 1923, COL Sanford was the glue that held the American Section together. Together with BG William H. Bixby, he prevented the almost certain disintegration of the American Section when World War I precluded holding any Congresses. In recognition of his services to



PIANC, the Association made him a life member of the Commission from the United States.

COL Sanford spent many years in foreign service, including posts as Military Attache to the United States Legations at London, Paris, Berlin and St. Petersburg. His last assignment was in Detroit, Michigan, where he was in charge of the lake survey and improvements in the Lake Rapids District and Lakes Division. He retired in 1922.

Returning to the United States after an extensive tour of Europe and Northern Africa with his wife, Col Sanford died at sea on Christmas Day in 1926.

(Editor's Note: If anyone knows the whereabouts of COL Sanford's descendants, please let us know. We failed in our attempts to contact his daughter Faith (Mrs. John A. Fletcher), last known to reside in Annapolis, Maryland.)

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## Lock Maintenance Innovations Save Towing Industry Millions

The Louisville Engineer District has saved the navigation industry millions of dollars by using team work and innovation to decrease maintenance closure times for Ohio River locks.

Markland Lock and Dam, for example, was closed only 40 days for maintenance in 1994, compared to 150 days in 1981 and 1984. In the early 1980s, the work had to be spread over two different years to avoid a long, one-time closure. The District estimates that a day of main chamber closure can cost the towing industry as much as \$300,000.

The lower Ohio River is the busiest reach of impounded waterway in the United States, with 100 million tons of commodities passing through each year. Louisville District operates eight lock and dam sites between Cincinnati, Ohio, and Cairo, Illinois.

"We have systematically developed methods to decrease the maintenance downtime on these locks," said Ken Matthews, director of Operations at the District.

Bob Willis is the Chief of the Maintenance Engineering Branch, which consists of the Louisville Repair Station and an engineering staff. He explained that the District's tremendous increase in productivity has resulted from years of innovations. "The key to our success is the teamwork and ingenuity of our craftsmen, their supervisors, and the engineers." says Willis.

The Louisville Repair Station typically doubles the size of the repair crew by hiring temporary workers for major maintenance projects. The use of experienced crew leaders, for additional supervision, improves the efficiency of the expanded work force.

Examples of equipment innovations include:

- ◆ **Jacking Systems** developed by the District use 200-ton capacity hydraulic jacks to raise and lower the massive lock gates.
- ◆ **Power Climber Baskets** mounted on stands at both ends of each lock gate provide safe access for personnel to remove, replace, and adjust the contact blocks at each end of the gates.
- ◆ **Scaffold Supports** designed and fabricated by District personnel hang on the gates and support scaffolds for vertical access to the gates, remaining in place throughout the project.
- ◆ **Personnel Boom Lifts** provide quick and safe access for inspection, adjustments and repair work.
- ◆ **A Construction Elevator** provides access to the upper end of the chamber, eliminating the need to frequently climb 70 feet of scaffold stairs or use crane baskets to enter and exit the chamber.
- ◆ **Permanent Rigging** is kept on equipment which is moved by cranes during a closure -- welding machines, tool boxes, scaffold sections, etc.--saving time spent finding and attaching properly-sized rigging.
- ◆ **Preassembled Scaffolds and Pump Piping** are used to minimize assembly time during lock closures.
- ◆ **Rental Equipment** is used extensively when the District expands its work force for a major job.
- ◆ **Portable Tool Sheds** stocked with commonly used tools and parts are placed on the gate sills, saving numerous trips, up to 1/4 mile, from the work area to the repair fleet.
- ◆ **Manifold Systems for Compressed Air and Oxygen** increase the number of air tools and torches which can be used and reduce work area clutter, decreasing equipment damage and increasing worker safety.

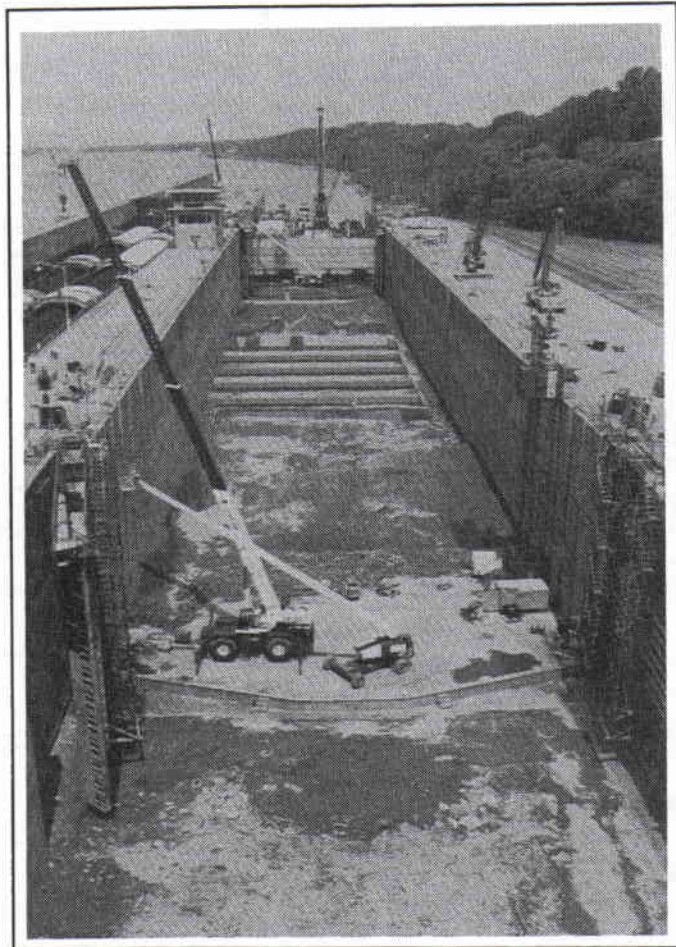
By late 1997, the district plans to have a floating crane (gatelifter) to lift the lock gates, then acquire spare gates for each lock. The gatelifter will decrease closure time for major maintenance to as little as two seven-day closures per

chamber. It will also eliminate a separate closure, of up to 42 days, for painting the miter gates in the chamber.

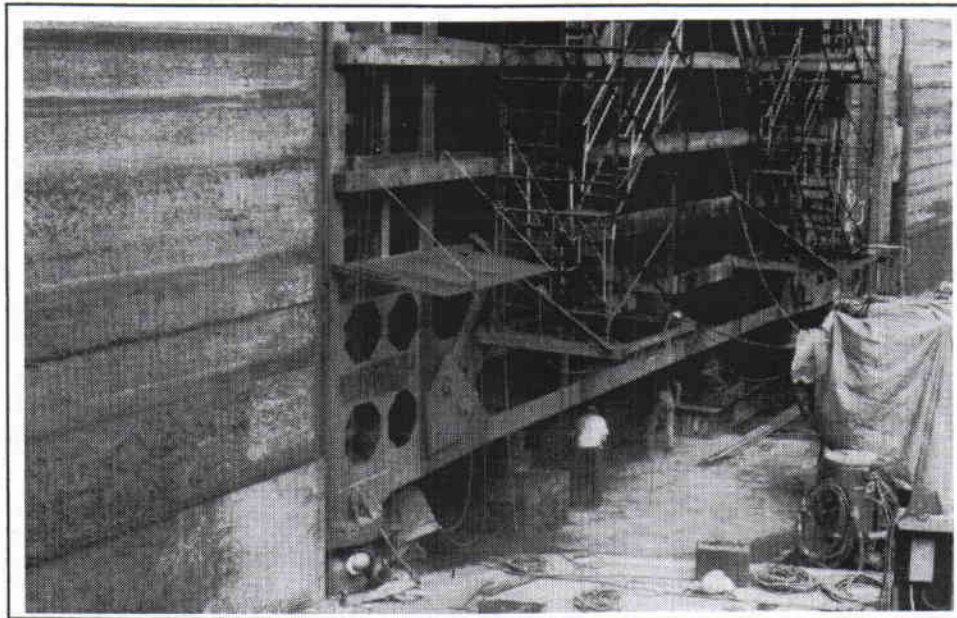
Miter gates will then be repaired and repainted at the storage site. The gatelifter will also be able to quickly and safely deal with the potential catastrophic failure of a lock gate, something not currently available.

Downtime for major maintenance of the Ohio River Locks in Louisville District has decreased significantly in the past fifteen years, and it is likely to decrease even further with the use of the gatelifter. The teamwork and efforts of innovative people working to minimize delays at some of the busiest locks in the country have made this possible.

For more information, please call Mr. Peter Frick, Project Engineer, Maintenance Engineering Branch, Operations and Readiness Division, (502) 582-5600.



*Dewatered chamber of Newburgh Lock and Dam*



*Maintenance on the Markland Lock and Dam*